

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2392.—VOL. LI.

LONDON, SATURDAY, JUNE 25, 1881.

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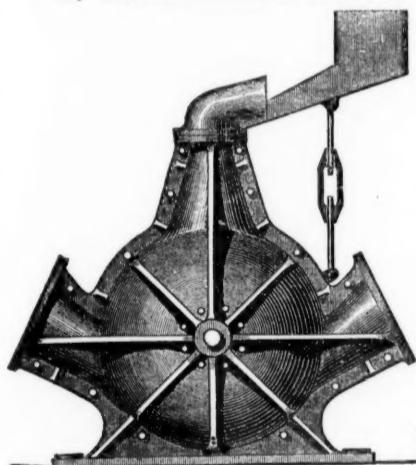
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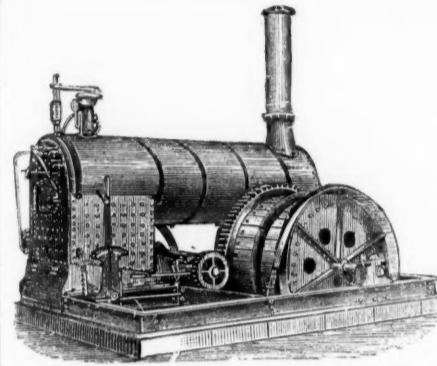
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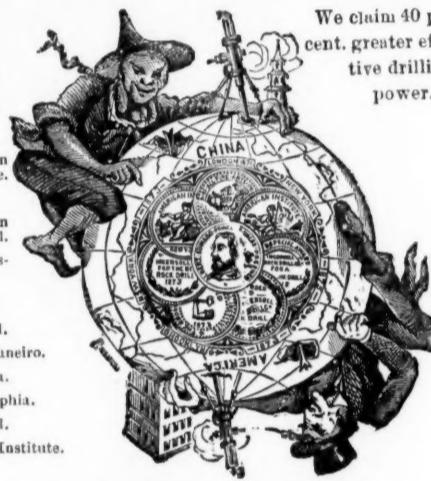
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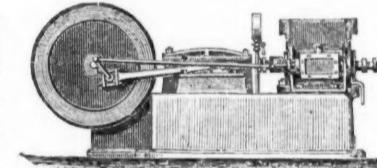
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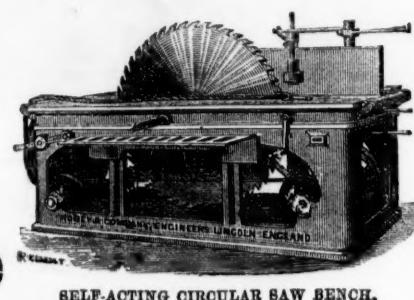
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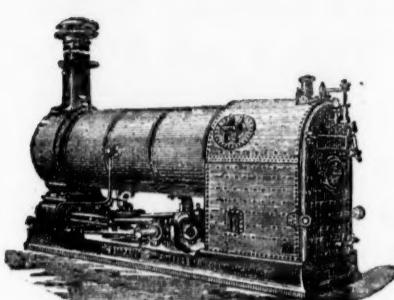
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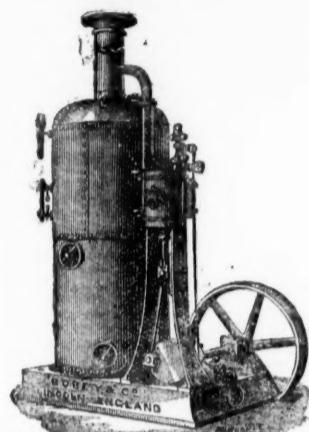
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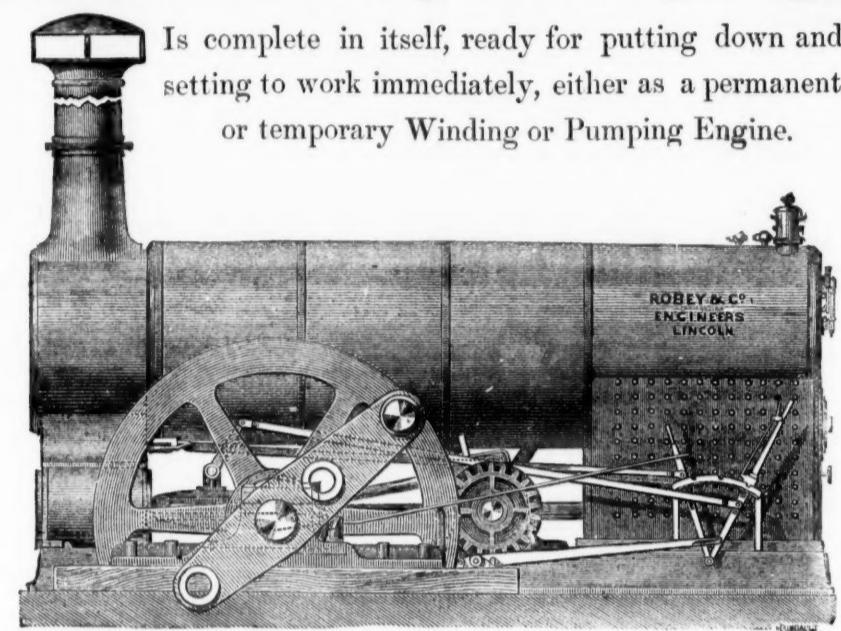
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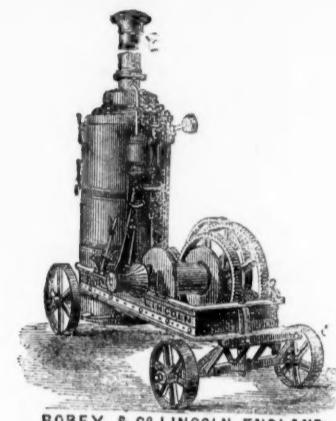
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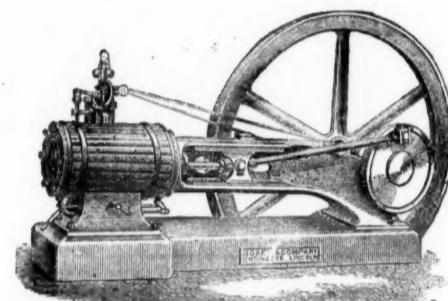
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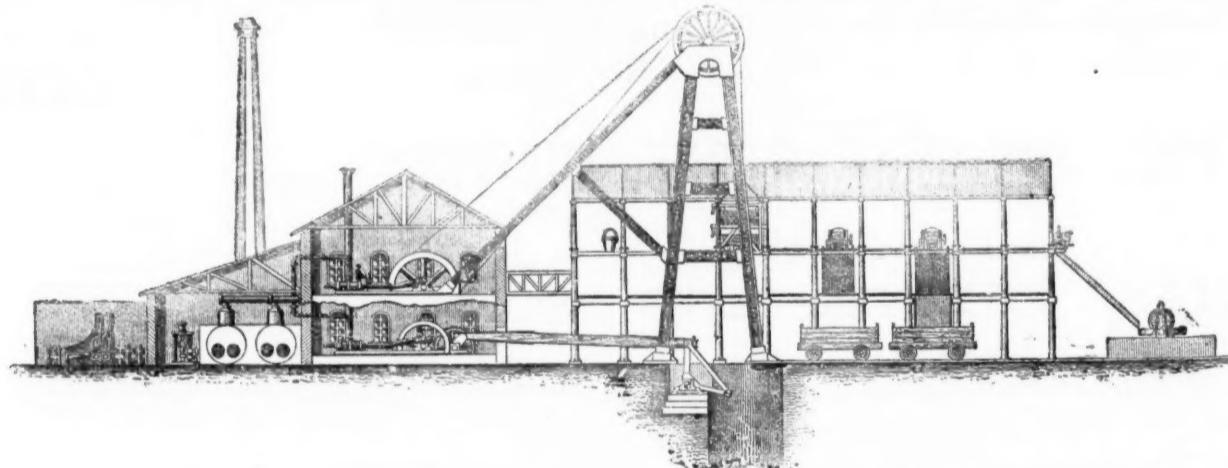
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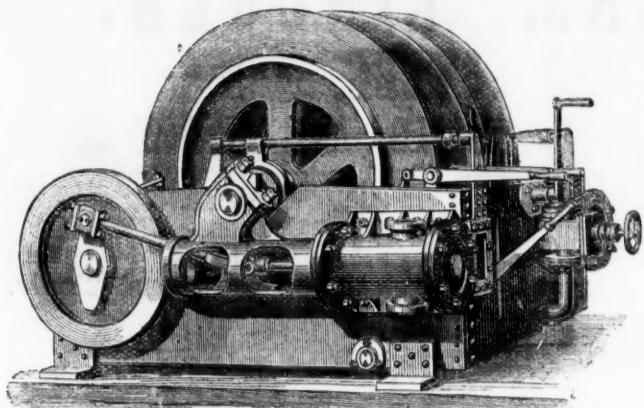
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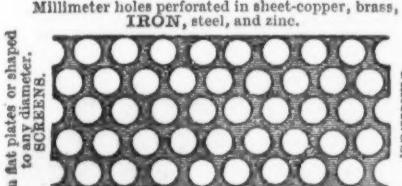
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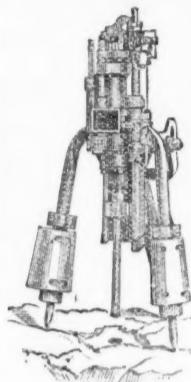
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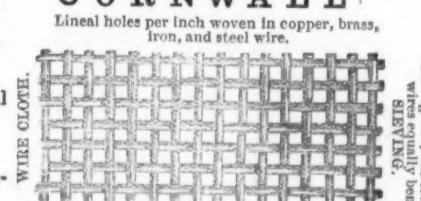
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THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was 121·30 metres, or 133 yards.

In a series of comparative trials made at the St. Gotthard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere ($7\frac{1}{2}$ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

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The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against accidents. The various methods of mounting them are the most efficient.

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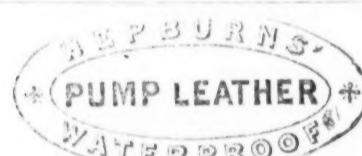
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R. SYMONS
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R. SYMONS, Mineral Surveyor, Truro.

February 3rd 1881.

TO PARENTS AND GUARDIANS.

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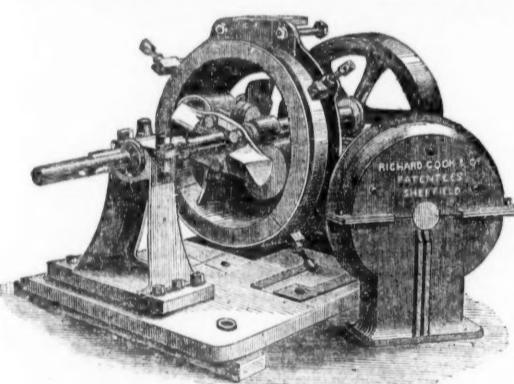
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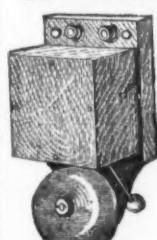
This mill consists of a circular iron casing, the section being elliptical in form, and is fixed vertically on a firm bed or foundation plate, a shaft runs through the centre of the casing on which is keyed a series of arms, in the extremities of which revolve two or more slightly oblong iron rollers, which, when put in motion, fly off from the centre and run upon the interior periphery of the casing, and by centrifugal force crush and pulverise the article under treatment.

The effect produced by this system is most extraordinary in its practical results, the power required is small in consequence of the comparative absence of friction from the working parts of the mill, the combined results of the rolling action of the crushers and their impact by centrifugal force on the material, being the same in kind, but in degree far exceeding that of edge runners, the sides of the casing are formed as open wire sieves of the degree of fineness required, and a series of propelling blades attached to and revolving with the central shaft drive the material under treatment through the sieves as it is pulverised; by this arrangement the degree of fineness can with certainty be arrived at from coarse to extreme fine, and that with uniformity.

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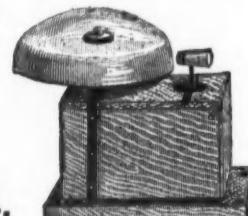
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JULIUS SAX (ESTD. 1850), 108, GREAT RUSSELL STREET, LONDON, W.C.



Original Correspondence.

QUICKSILVER.

SIR.—With a prospect of successful development of Indian gold mining far beyond the most sanguine expectation, this is a moment not inopportune to point out that the above is an article whose market value should at no distant date receive an immense impetus by reason of its absorption in the extraction of gold from the matrix of quartz. To place this beyond dispute, quotations from the Public Ledger for the last 10 years will doubtless possess value:—

	1850.	1879.	1878.	1877.	1876.
Highest price	£7 15 0	... 8 15 0	... 7 5 0	... 9 10 0	... 11 11 0
Lowest price	6 7 6	... 5 17 6	... 6 7 6	... 7 2 6	... 7 17 6
	1875.	1874.	1873.	1872.	1871.
Highest price ...	£22 0 0	... 26 0 0	... 20 0 0	... 13 0 0	... 12 0 0
Lowest price.....	9 10 0	... 18 10 0	... 12 10 0	... 10 0 0	... 9 15 0

The present price, £7. 5s., apart from the Indian demand to be anticipated, would thus seem a perfectly safe trade investment, especially when the falling off in Californian production receives consideration, for instance the receipts at San Francisco for the 12 months ending May 31, 1881, were only 54,642 bottles against 66,522 and 68,615 to that date for the two previous years. It would also be as well to note the other chief source of output. Spanish is rather on the decrease, for the last four years the figures showing:—

	1880.	1879.	1878.	1877.
Bottles	47,153	... 52,512	... 43,200	... 47,949

These figures demonstrate an unmistakable diminution in the production, and when the fact is considered that already 38 companies are engaged in opening out the presumed "Ophir" of the ancients, I feel assured that long before the year closes facts will have borne out the calculations of—

INVESTIGATOR.

Rydron, June 21.

DIAMOND MINING IN SOUTH AFRICA—No. V.

SIR.—In one of my previous communications to you I said that the decision of the Cape Parliament to spend 5,000,000/- in the extension of railways would be of great advantage to diamond mining in South Africa. Since then a letter has appeared in a City article of one of the London daily papers, disputing the power of the Cape Government to raise such a sum for railway enterprise, or to pay the interest of such a sum if the Government should raise it. The letter bears the signature of "A Cape Merchant," but that that signature is *bona fide* I cannot bring my mind to believe. No Cape merchant of any standing but must approve the vote of the Parliament to extend the railway system to the diamond fields, and it will be of value to the European capitalist who has invested his money in diamond mining companies to have pointed out to him how largely the extension of railways to the fields will benefit the operations in the mines. In the first place I had better answer "A Cape Merchant," who has told the English capitalist that the colony has not the means for such stupendous work, and the best answer I can give him is to quote some figures which are indisputable.

Between two and three years since Mr. Sprigg, the Prime Minister of the Cape Colony, and Mr. Uppington, the Attorney-General, paid a visit to the diamond fields with a view to spy out the land for the purpose of making arrangements, if possible, to annex the province of Griqualand West to the Cape Colony. In the controversy which took place between the people of Kimberley and the two members of the Cape Government it became necessary that statistical information should be procured and brought to bear upon the subject under discussion. The people of Griqualand West, with a view to show that they could pay for their own Government and were able to make a railway for themselves if the Cape Government extended the colonial railway to the border of the colony, produced verified accounts of the amount paid by merchants in the diamond fields for the carriage of goods from the colony to the fields, and it amounted to one million and a half of money. This is over two years ago, and since that time much heavier machinery has been brought to bear on diamond mining operations, and therefore the amount paid for carriage from the colony must have largely increased, and as companies employing foreign capital go on importing more suitable machinery for the work the item of carriage will go on increasing.

Before, however, going further into that matter I had better give your readers some assurance that the Cape Colony can afford to spend 5,000,000/- which the Parliament has voted for railways, because unless it can the capitalists of Europe may not be so confident as they are at present that investments in the diamond mines of South Africa are safe and profitable. No man would like to invest his money in a colony that was going into undertakings beyond its means, and which would result in nothing but debt.

In the first place I have shown you that the Diamond Fields alone spend one and a half million pounds per annum in bringing goods up from the colonial ports to the Fields. This has nothing to do with the passenger traffic, and the passenger traffic between the Fields and the colonial towns and ports is very large, and largely increasing year by year. The sum which is now spent in goods and passenger traffic is certainly not less than 2,000,000/- per annum. Possibly we shall find the Cape merchant writing to his friend the City Editor asking how this 2,000,000/- per annum is to be paid. Well, in the first place there is at least 4,000,000/- of diamonds exported from the Fields yearly, and then of the 883,362/- which is the value of ostrich feathers exported, a good share comes from and through Griqualand West, and that part of the colony does, in addition to its trade in diamonds and ostrich feathers, a large interior trade in ivory, karosses, and in skins, and such like, and that trade is going on increasing year by year. But it is not a question as to whether the Diamond Fields can pay the interest on the 5,000,000/- to be spent on railways, but whether the Cape can do so.

The Cape Colony includes Griqualand West, and the Cape Government carries out all its railways itself; and whatever the profit, it takes to itself, instead of allowing shareholders to take it. The 2,000,000/- of money spent in carriage by Griqualand West is an item to be calculated upon to cover the proposed outlay and cost of working the line. The Cape has already several lines at work; and, although they have been constructed for the most part but for comparatively a very short period, they give a return of 21. 4s. per cent. on the capital invested, leaving 21. 6s. per cent. to be contributed from the general revenue towards interest on capital raised for the construction of the opened section of railways.

But the trade of the colony and the wealth of the colony are so rapidly increasing that year by year the carrying work for railways will be so much increased that they will give large profits to the treasury. The ostrich feather trade has increased from 87,074/- in 1870 to 883,632/- in 1880. The exports have increased from 3,399,745/- in 1876 to 4,268,710/- in 1880. The increase in Customs' duties last year amounted to 74,607/-, bringing the total up to 1,032,836/-.

The colony can afford to pay the proposed amount for railways there can be no question to anyone familiar with its growing trade and wealth. Now, how will this railway affect diamond mining? In the first place, the mines are from 600 to 700 miles from the seaports, and at present the goods are conveyed upon ox wagons, taking weeks in transition. Every bit of machinery, corrugated iron, wood, and articles of consumption brought from the colony depends upon the ox wagon, and sometimes for weeks—aye, I have known it months—goods remain at the ports and cannot be brought up to the fields, whence they are needed, because the season is not favourable for oxen to travel. All this is a serious hindrance to mining operations, and besides which I presume we may take it that cost of carriage will be somewhat reduced; but if it is not then the regularity of getting up goods, and the speed by which they will be brought up from the ports, will be an immense saving of time, which will be a saving of money.

The next thing which I have to bring to the notice of the investor to show how much better and more profitable diamond mining is to be carried on in future is that the cost of water for "washing out" is to be reduced and the supply made equal to the demand. Hitherto the difficulty of obtaining water in sufficient quantities for mining purposes has been at certain seasons of the year very great indeed, and many and many a time in my experience have the diggers been standing still (and with their thousands of native labourers in full pay) for months for want of water. Many a large digger pays 10/- per week for water, for the quantity required

first to soften "the blue" and then for the rotary machines is enormous. The price of water may be quoted at an average 2s. 6d. per 100 gallons. It is sometimes 5s. per 100 gallons, and I have known it as high as 7s. 6d. per 100 gallons.

The Kimberley Waterworks Company are now about to bring in a supply from the Vaal River, and have agreed to supply it at 1s. per 100 gallons. This will be immensely profitable to the company, and give its shareholders dividends equal to diamond mining, whilst it will save the diamond miner 1s. 6d. per 100 gallons all the year round, and sometimes 2s. 6d. per 100 gallons, and prevent diamond mining from being ever brought to a standstill for want of water. A claimholder pays hundreds of pounds in wages per week, and to have machinery and stuff standing still for even one week for want of water, or waiting for machinery through lack of carriage, is an awful expense.

R. W. MURRAY.

South African Office, Upper Thames-street.

BRITISH MINING MACHINERY IN INDIA.

SIR.—In the *Mining Journal* of April 30 we note a communication, signed "Argus." In this it is stated that we made the 12-stamp head battery, recently erected and worked at the Oregum Gold Mines, which is said to have broken down from the construction being of the rudest kind. This statement is incorrect—we did not make any portions of the battery nor machinery at the workings opened by Mr. Bray. We have manufactured pumps and gearing designed by Mr. Bray, which are now being erected at the shaft termed Munday's, and supplied engine-power from Messrs. Ransomes, Head, and Jefferies to drive the same. MASSEY AND CO. Napier Works, Madras, May 28.

INDIAN GOLD MINES—LARGE YIELD OF GOLD.

SIR.—On perusing the report of the proceedings of a meeting of the Indian Gold Mines Company of Glasgow, published in last week's *Journal*, I observe that the Chairman, Sir William Cunningham, was unable to inform the shareholders of the name of the reef whence the stone was obtained yielding 4 ozs. per ton; permit me then to state, for the information both of Sir William and shareholders generally, that the reef in question belongs to the South India Alpha Gold Mining Company, and work has been commenced by Mr. Severn at a portion of the reef named Wright's Level, where very good stone is got quite close to the surface. The Indian Gold Mines Company are working this portion of the Alpha property under the conditions recently made public through the columns of the *Journal*, and as a shareholder in the Alpha Company I may say that I and others are not a little surprised at no mention having yet been made by the Indian Gold Mines Company of this important fact.

Brighton, June 23.

J. H. GAITSKELL.

CEDAR CREEK GOLD MINES COMPANY.

SIR.—I am pleased to hear that a scheme is under consideration for the re-working of the Cedar Creek Gold Mines in California. When I see so many new gold companies brought out every month, and the capital in most instances so readily subscribed, I am at a loss to solve the question why such a good property as the Cedar Creek Mines has been allowed to remain idle so many months. Ask any mining authority from the Pacific States what he thinks of these mines, and his answer is safe to be that they are considered to be among the best in California.

When the scheme of re-construction is laid before the shareholders—and I hear it will not be long before something of this sort will be done—I hope they will come forward readily and subscribe the few thousand pounds needed to resume work. Then we shall see Cedar Creek shares, which are worth now only about 4s., go to a respectable price.—June 22.

A SHAREHOLDER.

REMARKS ON MINES AND MINING IN COLORADO.

SIR.—Since my arrival in this country I have been rather surprised at the enormous amount of undeveloped mineral wealth which lies scattered over this vast continent, more especially in Colorado, where rich lodes of lead, copper, silver, gold, and in fact mostly all the known valuable minerals, can be easily traced for miles cropping out at the surface or found in the alluvial deposits of rivers or lakes. The enormous amount of capital which is necessary to start a mining concern in the British Isles, more especially Cornwall or Wales, is scarcely ever required in this country, the principal mines are situated generally on the mountain slopes, thereby in a manner obviating the necessity of erecting pumping and other expensive machinery, &c., to place a mine in proper working order; and then it is a question if the mine turns out sufficient returns to pay the cost of a single inspection. All this expense is done away with here, simply because the ground can be easily tested as to its value at a paying cost. I wish more especially to call the attention of mining speculators in the British Isles to the Livingstone Mine, which is situated at an altitude of about 8000 ft. above the level of the sea (though situated at the base of a high mountain) between the celebrated Boulder Canon and Left Hand Creek, in the county of Boulder, State of Colorado, and I can safely say without fear of contradiction that there is no mine in the British Isles that can offer the same advantages which the Livingstone mine affords. The mine proper extends from south-east to north-east; the extent of the sett is 1500 by 150 ft., which I suppose will look very small in the eyes of mining adventurers in the Old Country, but which I can assure you is considered rather a big thing here. There are two other mining claims or lodes running parallel with it, named respectively the Armstrong and Larato lodes, which can be incorporated in the Livingstone sett.

The mine was first discovered by a miner, J. P. Jones, on March 10, 1879. Indications proved that the stratification was highly mineralised, producing a free milling ore of a telluride character, carrying gold and silver in large quantities, and pronounced by competent experts who have inspected the property to be of great value. Five samples have been assayed giving the following results:—

	Gold.	Silver.	Value per ton.
No. 1.	8 ozs.	15 ozs.	£44 0 0
No. 2.	57 "	14 "	388 14 6
No. 3.	118 "	40 "	601 3 4
No. 4.	67 "	21 "	342 2 6
No. 5.	1 "	3/10 "	5 2 6

Though I give the result of a special assay, I would strongly advise gentlemen embarking in mining enterprises, more especially American, to place more credence on the results of milling operations, simply for this reason that an assay is a test from a selected piece of ore, whilst the week's run from a mill will be a good average of the paying mineral in its various grades.

The vein has been costeamed on the surface both north and south of the shaft, which was sunk to the depth of 15 fms., with a view of locating it as a permanent working shaft. The said surface workings uncover the vein 150 ft. north of the shaft, 70 ft. wide, at an average depth of 10 ft. In the space opened south of the shaft several leaders and two caunders were found, one of the latter crossing the Livingstone vein about 70 ft. south of the present shaft at an angle of about 35° at the point of intersection. A pocket of very rich ore was found; in the open-cut north of the shaft a large body of ore, at least 12 ft. in width, was discovered, out of which the mill gave returns of over 300/- per ton. In addition to the better class of milling ores a great quantity of concentrating ore was found—in fact, the whole crevices matter is concentrating, the bulk of it being low grade, interspersed with streaks of very rich ore. The geological formation of the district is granite, with limestone as a base, intersected with a large outcrop of white spar or virgin quartz. The crevices matter is decomposed granite and quartz, carrying rusty free gold and silver, with a little, if any, iron or copper. As the shaft went down tellurium and sylvanite were met with, though only in sufficient quantity to indicate its presence as yet is found. The vein is an unusually large one. At the bottom of the shaft a cross-cut has been driven for the purpose of intersecting the vein, but in consequence of the broken state of the ground I should like to see the shaft sunk to at least 5 fms. more for the purpose of getting into more settled ground; if such is done I have no hesitation in saying it will be the means of developing immense mineral wealth. There is now on the surface about 300 tons of good concentrating work, which will average 10/- per ton.

A splendid cartroad runs through the sett to the smelting works

which lie within a few miles of the mine. Though the principal advantage is the railway and metal market, which is only ten miles distant at a down grade from the scene of operations, any quantity of timber can be had for mining purposes for the mere trouble of cutting. No lack of water power all the year round. The plant consists of a good substantial shaft house, 10 by 15, a strong ore house, 18 by 20, blacksmith's shop, stable, store house, and superintendent's offices; these are all built of good substantial sawn lumber.

In connection with this article I will incidentally mention the fact that there are parties who are making arrangements to erect works for an improved process for the treatment of telluride ores, which, if successful, will revolutionise the expensive manner heretofore used in the treatment of our ores, and enhance the value of the Livingstone property a thousandfold.

In a few weeks I will send you the next paper.

Chicago, June 7. J. PENROSE, Mining Engineer.

EUREKA (NEVADA) MINING DISTRICT.

SIR.—I have the pleasure to hand you my usual budget of news from this locality:—

A few days since a Sentinel reporter, in company with E. J. Butler, the secretary, and Maurice Hartnett, the contractor, visited the Eureka Tunnel. Although this work has been in progress for upwards of two years, we were unprepared to see so large an amount of labour performed. Our citizens are fully aware that this enterprise has been steadily progressing, but few have any conception of its vastness or the benefits which must accrue to our district. A brief outline of what we saw may be of interest to our readers, and stimulate all who have mining interests in the district to bend themselves to renewed exertions in developing their properties.

The Eureka Tunnel is situated upon the eastern slope of Prospect Mountain at the head of Goodwin Canyon, and in the vicinity of many mines which have produced largely in the past, although no great depth has been reached by any of them. Among these may be enumerated the Industry, Plute, Alexandria, Pioneer, El Dorado, Silver Connor, and others, which we do not now recall. All of these and others in the vicinity may eventually be worked by means of the tunnel, as this system of mining is the least expensive whenever it can be successfully accomplished.

Upon entering the tunnel lime rock is encountered which is about 200 ft. wide, when a belt of shale is met, which is about 250 ft. in width. Then another lime body puts in an appearance, and continues for several hundred feet. At 900 ft. from the opening a small seam of iron ore was crossed, and a drift started north upon it. From this drift an upraise was made, the ore being followed north about 70 ft., through another drift. The ore appearing to trend downward, another lateral drift was run from the tunnel level for a distance of 75 ft., encountering a seam of ore about 2 ft. wide, which appears to extend north and downward.

Owing to the air becoming foul at this point work was suspended upon the drift, as it interfered with the work in the breast, the management wishing to push the tunnel ahead rapidly to reach the contact. At a point about 1100 ft. from the mouth a splendid vein is encountered fully 6 ft. in width, the ore showing by assay to be of a grade which will pay whenever the company may be able to work it. At a point about 50 ft. west from this ledge an ore was met with lying horizontal, varying in width from 2 in. to 2 ft., and much resembling manganese, although the miners insist that it is ore. This assays as high as \$1000 per ton, a streak of yellow chloride running through it, and appearing to permeate the whole rock. This seems to puzzle not only the miner, but also the geologists and experts who have seen it in place in the tunnels. Another belt of shale is soon encountered, which has been penetrated over 500 ft., but as water has recently been met it is believed the contact or mineral zone is being approached. In the belt of shale here mentioned mineralised lime appears, which has forced its way into the shale as the shale has folded itself over it.

In the mines of Ruby Hill the indications presented at this point in the tunnel are followed, and are invariably found in connection with it. There are in fact a number of places in the line of the work which no doubt the company will eventually work upon, and in doing so develop ore in paying quantities.

The length of the tunnel is now 1

of mud; in this level we are preparing to lay down a tramroad. In the jacking we have driven 60 ft., and have crossed two lines showing gold; this end is suspended, and we are now driving east on a course showing gold, where No. 2 sample was taken from and sent to London; this we purpose to communicate to the level driven north-east, and when holed will give air to drive on the courses seen in that level.—JOHN TRUMAN.

Cieche, Brazil, May 12.—I had this pleasure on April 22, since which I have received your esteemed favour of March 23, and await your further commands and enquiries relating to my detailed report. I desire now to inform you of our progress for the past three months.—Serviço Velho Mine: Harvey's level 250 ft. is advancing fairly, the large quartz lode we tried to avoid in drifting came in on the west side for 2 ft. in width, and is being carried with the level; a branch lode also 2 ft. wide has been running with the course of the lode towards the main Descherto lode, and producing gold in the samples. We are saving all for further treatment. All shallow works in this section await the deeper drifts.—Mata Mata Mine: the north and south drifts are improved in width; the more we see of these levels confirm us that depth is necessary to a uniform lode. Wilson's drift is in a good position for future work on this lode.—Jacutinga: Two levels are nearly complete; we propose to follow every line showing gold in the samples.—Surface: Five or six pairs of sawyers are well supplied with timber from the estate at the price of falling and carriage.—Forest Work: The season is favourable for cutting timber for planking and underground requirements, contracts for tile, grass for roofing purposes, carriage of timber and charcoal, in fact we are contracting for every description of work practicable to the Brazilian. The blacksmith's shop is complete, and the water blast at work: carpenter's shop awaiting tile. Patterns for ironwork used in making train wagons ready, and wagons being built. The water supply to work the mines is being measured. The mine is sampled at all hours, and all extra costs in labour avoided. The Englishmen's dwelling houses will shortly have my attention. The materials supplied from Hayle have arrived; a portion supplied from Tangye Brothers has also arrived, omitted to be shipped on your side as per particulars enclosed, and not in B.L. with me, and wanted for Englishmen's houses. I enclose duplicate letters from Messrs. Johnston and Co. for your information. The drafts drawn to date amount to \$7000—March 1, \$300; April 1, \$1000; April 19, \$1400; May 1, \$1600—total as above, \$7000. I remit to Mr. Lott the account of the money I drew at Rio to pay expenses of self and staff.—Samples: Having addressed you on these in previous letters, I do not see the necessity of your spending any money in assays; if you desire I will forward a duplicate set of those tested by our process. I find it very cold temperature, falling at night below 60. —R. D. GEACH.

GOLD MINING—NEW SOUTH WALES.

SIR,—I see by the English papers that there is not only a desire to invest in the East Indian Gold Mines, but also in the Australian ones; and, as any double dealing can more easily be found out here than in India, so much the better for home investors in our mines, to whom these few words of warning also may be useful. Do not be carried away by reports as to assays (for free gold), for 50 ozs. to the ton by assay may not yield practically more than an ounce or even a fraction of an ounce per ton (with pyrites, of course, it is difficult to a great extent), as by proper treatment all the gold should be got out of this within 5 or 6 per cent.

The only real payable test is the result through the stamper boxes and tables, and if the reef is 3 ft. wide, and will yield only 10 dwt., steadily, it will pay well if wood and water are plentiful, and country fairly easy to work.

Before erecting expensive plant insist on a few hundred tons of stone being first raised. This will prove the reef; cost comparatively little, and if it will not pay the first loss is comparatively small. Under no circumstances accept any report unless it be from the Government Mining Department (with its stamp attached), or else from some well-known scientific man of high character and real experience, or whom some first-class respectable firm can vouch for. I mention this specially, because there are schemes being got up here to send to London, some of which are about as likely to pay as if they were in the moon; and, as some of the men who write the reports have neither character nor means beyond what the promotion will find for them the English public cannot be too careful in seeing that whatever property they do invest in has been actually seen and examined by men of position and proper scientific acquirements.

There is a steady revival here at last, and the striking of the wonderfully rich leads again in the Lucknow Reefs—some blocks I saw from the Reform Company's Claim will certainly go well for 1000 ozs. per ton—and the way in which one of the line of reefs at Copeland (Prince Charlie) has lately opened out is inducing confidence again. Before these late special finds—say, even six months ago—either of these properties could probably have been got for 20,000^l, and now I expect they would want a little more, especially as the Old Lucknow, at Wentworth, has already given about 6 tons of gold; and a scientific gentleman from Home, on fully examining the Copeland line of reef, valued the gold which might reasonably be expected to be got from it at from half a million to over three-quarters sterling. Temora is also proving extremely rich in alluvial gold; easy sinking, great thickness of wash-dirt, and plenty of coarse gold and nuggets sprinkled through it all; and if the water supply were only equal to the demand it would probably prove itself one of the richest alluvial fields yet found here. At Zalival in the south, Solferino in the north, and Mount Poole in the extreme west fresh finds are being made; and Araluen and many other old fields are steadily improving again—so that, generally speaking, there is now a more stable, because more fully proved, opening for investment than ever, and certainly a more reliable one than Eastern India can show; only, as I said before, let no penny of English capital be sent out here for this purpose except on the faith of reports from an undoubtedly reliable source, as without the fullest precaution some plausible swindle will succeed (so far as floating it is concerned), and England will lose her money and the mines of New South Wales their character.

MANGANESE.—There has been a large deposit of this ore lately found here, assaying over 70 per cent., and singularly free from phosphorous, silver, sulphur, &c.; but, as no reliable quotation of value in London can be got here, it lies idle. CHROME.—Large deposits of this also (one assaying 75 per cent.) have lately been opened up, but also lie idle from like cause. CARBONATE OF MAGNESIA.—Mr. Constable here has received some samples of this from a deposit lately discovered on his land in New Caledonia; it is also very pure, and (it is said) can be got out in quantity should there be any demand for it. SULPHUR.—White Island, near Auckland, New Zealand, has just been visited by Mr. McIver, from Melbourne, who reports the sulphur deposits as being very extensive—and, in fact, all but inexhaustible, as they are continually forming. R. D. ADAMS.

Sydney, May.

GOLD MINING IN QUEENSLAND.

SIR,—The accompanying letter on the Gympie Gold Field has been sent me by Mr. N. Bartley, of Brisbane, Queensland, and as he is a gentleman reputed to be well acquainted with the subject, and as attention is being attracted towards Queensland generally as a field for investment of home capital it struck me it might interest some of the numerous readers of the *Mining Journal*.

Probably no known gold field has ever given such average high yields of gold per ton as Gympie has and is again now doing for the sudden revival of the last six months there all along the various lines of reefs is something extraordinary, and goes very strongly to prove the permanency of the rich levels with depth, as many claims that were considered worked out at the 200 ft. levels on being again sunk or prove as rich or richer than ever, and in many cases within a few feet of where the former owners left off; and, although in Sydney men naturally like to see outside capital floating into our own colony for its fuller development, still in common justice I am forced to say that either Gympie or Charter's Towers—but more especially Gympie—offer one of the most certain fields for investment in the colonies for gold mining, and more especially to any company with the enterprise and sufficient capital to sink 700 or 800 ft., and properly cross-cut and fully explore the lodes, &c.

R. D. ADAMS.

The GYMPIE GOLD FIELD, situated on the head of the Mary River, in Southern Queensland, is, for its size, the best gold field in the world. Towards the close of the year 1867 about 17,000^l. worth of alluvial gold was found in a gully running down to the river, and this was the first and the last of the alluvial metal unearthed at this spot; reefs were discovered, and all the rest is held in these quartz reefs. A reef is a wall generally of white quartz, averaging about 18 in. in width, and penetrating the earth at an angle of about 70°, which is called the underlie. The geological formation of Gympie gold field is a green diorite—the miners call it slate, but there is nothing schistose about it—and wherever the quartz reefs traverse this rock they are richly impregnated with gold. The same reefs, however, which continue to run outside of the boundaries of the diorite area contain no gold whatever when they are clear of that formation. The chains of Gympie to consider are found on many solid bases; in the first place, its average yield since its discovery in 1857 has been about 2 ozs. of gold to the ton of quartz. Let anyone compare this with the averages of Victoria, New South Wales, California, Mexico, Brazil, the Urals, &c., and the result will be startling; and it must be borne in mind that this high yield average of Gympie is sustained nearly all through the great colony of Queensland, and, with an area three

times that of Texas, and more than double that of France, having only a fourth of the population of New South Wales, produces annually more than three times the yearly yield of gold of that parent colony. In Victoria the alluvial gold is or has been so rich and plentiful that the reefs—the original source of it—having parted with most of their wealth, are impoverished so as to average only about 8 dwt. of gold to the ton in place of 40 dwt. as in Queensland, where alluvial gold is much more rarely found than in the southern parts of Australia. To Gympie also belongs the honour of having yielded the largest return of gold from one single ton of quartz that the annals of the world record: 4000 ozs. of refined gold were crushed from 1 ton of quartz taken out of Lady Mary (prospectors) Claim in 1868. The gold, like small reefs pulled lengthways, held the quartz together, and the heavy steel stampers were powerless on this small parcel of ductile metal, and it was not till some 4 or 5 tons of barren quartz were added to the mill that the rich sample could be reduced to a powder fit to amalgamate with quicksilver. This yield from a single ton has never since been quite equalled, even on Gympie; but many a single shaft there of no great depth or drive has yielded 100,000^l. worth of gold—such claims as No. 1 South Smithfield, New Zealand Prospectors, Nos. 7 South Lady Mary, and Nos. 7 and 8 South Monkland, &c. One great advantage which Gympie possesses over the more extensive and pretentious tropical gold field at Charter's Towers is that the gold is nearly all in plain quartz, requiring no treatment beyond mere crushing and amalgamation with quicksilver to extract it all. Charter's Towers, while much larger in area than Gympie, and as big as an English county, has all its best gold entangled in pyritous ores, requiring a more elaborate chemical treatment to set it free than is the case with good straight gold in quartz only. There is no place in the world offering so fine a field for mining capital in gold as does Gympie. Persevering search there never fails of being rewarded; it is only in case where insufficient capital and isolated efforts have been at work that a breakdown or failure has resulted, and in all such cases the new parties who took up the abandoned work invariably came upon rich gold in course of time, for it lies everywhere under the surface at Gympie. One great test and proof of the wealth of Gympie may be found in the fact that with a population of about 1000 adult males (exclusive of women and children), and many of these males being butchers, bakers, storekeepers, and everything you please except miners, the annual yield of gold is about 200,000^l. (and this year that return is likely to be doubled), giving an average of 200^l per annum to every adult male. Compare this with the annual yield per man on the Spanish Main, and with North America, where it is an old and well-known proverb for centuries that \$1 a day, paid regularly, is better than any one man's chance at gold mining. It may be asked, then, why is the population not larger? The reply is that the yield, though it averages so highly, comes not so to all alike. Disappointed small capitalists and workers who cannot hold out till success comes leave the place, while successful ones buy sheep stations and sugar plantations with their golden treasure, and also leave the place; but the average shown above is sufficient to show what a magnificent return it would yield on the application of sufficient capital and on a proper scale, and in a country like England, where money languishes for an outlet, and is content with 2½ per cent. *pour faire de peu*, a place like Gympie, in Southern Queensland, Australia, ought to be better known than it is. As an instance of what may be done even by single-handed indomitable perseverance a miner named Hull, who had haunted one spot, working unaided for some nine years, and never made more than his bare living, was recently rewarded by coming on a patch of stone that yielded him 1400 ozs. of gold, value 5000^l, with twice as much more to follow underneath it. What would not capital do in such a spot?

MINING IN NORTH CAROLINA.

SIR,—I have recently arrived in London from California, taking in on the way some of the great gravel mines of that State, and a great many rich vein mines of silver and gold in Arizona, Mexico, and New Mexico. Upon my arrival in New York I was retained to examine the gold mines of Crowell Hill, North Carolina, and as the Hoover Hill Mine, in the same State, had been placed upon the British market, and I was *en route* to England, I felt a more than ordinary interest to explore the vicinity. The trip to North Carolina was, therefore, soon determined upon, and, as the results of this trip are freshest in my memory, I will take the liberty of offering them to your readers, deferring my recent Pacific Coast Notes for another occasion. I shall remain in London until about Sept. 1, then go to Spain to examine some silver mines there, and then back to California.

The Crowell Hill Mines of North Carolina consist of 850 acres of land situated in Stanly County, North Carolina, 23 miles south-east from Salisbury, 9 miles south-east from Gold Hill, and 1½ miles west from the Yadkin river; altitude about 800 ft. above the sea. The surface consists of low hills and undulating gravel drifts, which in many parts are covered with a heavy ferruginous alluvium. Through this appear numerous outcrops of gold-bearing quartz ledges, running in various directions. The alluvium in many places is thickly studded with forest trees, and in others is cleared and devoted to agriculture. In all these respects the superficial appearance of the district closely resembles that of the foot-hills of California, particularly in the neighbourhood of Sonora, Tuolumne County. The climate is temperate and salubrious, the rain-fall is copious, and labour and supplies are unusually cheap.

The bed-rock is classed by local geologists among the Huronian slates. As shown by the open cuts and subjacent excavations in and about the mine the ground is volcanic, and has been thrown into a variety of forms and positions by the combined action of plutonic force, intense heat, and great superincumbent pressure—probably of sea-water. Through the disordered mass of materials thus produced or thrown together appear two series of quartz ledges, which incline toward one another at an angle that, taken together with other evidences, indicate the Crowell Mine to be a portion of a volcanic crater or fissure. It is upon the sides of this fissure, and in and about the ledges of quartz which mark its contour, that the gold from this mine is found. Before the surface was worn down to its present altitude the cropings of these two series of quartz veins were, doubtless, very much further apart. The distance between them is now about 400 feet, and, judging from the inclination of the ledges, they will come together at a distance of about 200 ft. vertically from the surface. At this point—the throat of the assumed volcanic fissure, and reasoning from analogies furnished by numerous cases in the mines of California, Mexico, and the Pacific Coast generally—I should expect to find one or more large bodies of ore. These bodies are so commonly found in the position named that in some districts of Mexico they are the first objective point of the miner after the general character of the ground has been determined, and the object in the pursuit of which he will disregard all nearer and more accessible deposits of ore. Still, assuming that I have not mistaken the character of the formation, I should also expect the ore to show larger proportions of silver as depth is attained. The general direction of the volcanic fissure is north-south, and of the ledges one dips to the east, the other to the west, as they go down. The former, or inferior ledge, has been explored to the vertical depth of about 40 ft., and found to consist of two narrow ore-bearing veins. The latter, or main ledge, has been explored to the vertical depth of 112 ft., and found to consist of one principal vein, with numerous stringers. It is this vein which at the present time practically constitutes the Crowell Mine, though it is by no means productive and valuable.

The main ledge was originally worked by an open cut extending horizontally several hundred feet and downward about 50 ft., and disclosing a vein of dense quartz, with splashes of adjacent gold-bearing rock, metamorphosed by fire, and rendered soft enough to be removed by the pick and shovel. Down to the bottom of the open cut the ore, according to Prof. Baines, averaged from \$5 to \$7 per ton. Below this point they rapidly improved in value to their present high standard. Convinced by the developments in the open cut and in several prospecting shafts which had been sunk in the vicinity that the mine contained permanent and valuable deposits of ore the proprietors proceeded to sink a vertical shaft some 150 west of the main ledge, and at the 100 ft. level drifted eastward to the ledge. After reaching this objective point they turned back, and made a cross-cut at the distance of 60 ft. from the shaft, which cross-cut runs south from the drift 25 ft., and north from the drift 19 feet. The reason for making this cross-cut was the discovery of a body of grey sulphurites at its intersection with the main drift. These sulphurites occur in two parallel bodies, each of about 15 in. in width, and separated by a horse; the entire width of the deposit, including the horse, being about 3 ft., and its general direction, as thus far shown, nearly horizontal. At the ledge end of the main drift, and near the extremity of the south cross-cut, there are uprises which run into one another in the ledge, and eventually ascend into the open cut or old workings. These old workings, and the uprises mentioned, together with some irregular excavations in the main drift and cross-cut on the 100 ft. level constitute the principal stopes of the mine. From these stopes have been taken three classes of ore:—1. Hard rich specimen quartz, worth several thousand dollars per ton. Assays of this class of ore were made at the Government Assay Office in New York.—2. Hard quartz, worth several hundred dollars per ton.—3. Soft low-grade ore, running from \$5 to \$7 per ton in the upper workings to \$20 per ton in the lower. Samples of this class of ore were taken by myself, and sealed up in bags whilst in the mine. In sampling the mine, which I did in eight different places, I found the stopes to consist mainly of the two classes or ores last named; the second class in places here and there, and the third class in fusion. The mine is as yet so little developed that the amount of ore absolutely in sight is comparatively small. Roughly speaking, it might amount to several hundred tons.

On the ore dump I found some 20 or 30 tons, which I was informed averaged about \$20 per ton. The supplies of this class of ore are expected to be more than keep pace with the present facilities for reducing them. The cost of reduction I should be inclined to place very low. The ore for the most part are easy to work, the machinery is efficient and economical, and fuel and labour are cheap.

At the Grand Victory Mine, in El Dorado County, California, where fuel is \$3 per cord and miners' wages \$2.50 per diem, the ore do not average in value over \$6 per ton, and the cost of extraction and reduction not over \$1.75; yet this mine has 50 stamps running, and yields large profits. The cost of extraction and reduction at the Grand Victory is even more than I believe it will cost for the same work at the Crowell Mine. At the latter it will probably cover dead work and exploration. These various circumstances and conditions taken together constitute the elements of a very profitable undertaking.

With regard to improvements the main shaft of the Crowell is perpendicular, and is down 112 ft., the last 12 ft. of the distance forming the sump, into which flow the drippings of water from the 100 level. This shaft is substantially timbered. Beside the timber in the shaft little else is used or needed in the mine. There is scarcely any water in the mine, and what there is is easily handled by the present machinery; however, to guard against flooding while pushing the shaft down to the 200 level, a 5-in. Knowles pump is now at the mine, and will soon be erected in place. The pump consists of a 4½-horse power engine; a steam geared hoister, link motion, and 200 ft. of wire cable; a 30-horse power boiler; a saw-mill, with 56-in. saw; hand 40-horse power engine; a 75-horse power boiler and 80-horse engine for the mill; a 5-horse power battery; an ore-breaker; a Howland pulveriser, with amalgamating pans, settlers, &c.—all complete, in good order and working. Prices in the neighbourhood and as paid at the mine are as follows:—Miners' wages, \$30 to \$40 per month, not found; miners' board and lodging, 28 to 32 per month; pine logs, cut and delivered at the furnace, 40 to 65 per cord; candles, \$2 per 100; powder and quicksilver at New York prices, plus very low

rates for freight. Speaking generally, the Crowell Mine is a valuable and promising property, and, in my estimation, is destined with a continuance of the recent system of management, to yield large profits to its proprietors. The Crowell property is, however, so extensive, and so filled with volcanic fissures and quartz veins, that the Crowell Mine proper forms but a small portion of it. At Kimball Hill, in the vicinity of the Crowell shaft, a tunnel driven into a formation similar to the above described shows good prospects; whilst on other portions of the property surface washings are being prosecuted by experienced Californian miners, and with encouraging results.

I have brought with me to England numerous samples of the Crowell gold ores, and a fine display of the North State iron, copper, and other ores. The Crowell property will, in my opinion, rank in productiveness far above the Hoover Hill, and if the proprietors should decide to offer any portion of it on the British market I would not hesitate to advise my friends to invest. ALEX. DEL MAR.

Gresham House, London, June 20.

LA PLATA MINING AND SMELTING COMPANY.

SIR,—One reason that La Plata shares are so low in price is—many people do not know the value of them. They pay nearly 18 per cent. dividend at the present price. I cannot find another mine or any other undertaking which does the same. In December last, when the shares were 2 to 2½, the reserve fund stood at \$53,460, but now it stands at \$55,079. They are also erecting another furnace, as the ore offered to the company is in excess of its present smelting capacity. Another reason is—that the shares have to go to America for registration, which makes it a little awkward for people who buy to sell again in a few days, and they are apt to lose the monthly dividend, so it would be better to have the dividend once a quarter for such people, or an English director to do such work, as about one quarter of the shares are held in England. Another reason is—that English lead mines are low in price, and some people get nervous. But American lead mines have nothing to do with English; lead is of far more value in that country. But La Plata is a mining and smelting company; the smelting is where most of the profit comes from.

If some of our large lead mining companies were to follow La Plata's example and do the smelting they would receive most of the profit, instead of letting others reap the benefit. Another reason is—people are parting with good paying shares to buy shares in new companies. I am a shareholder of La Plata Mining and Smelting Company, and consider a "Constant Reader" need not feel anxious about them, if he sees \$986 put to the reserve fund, as it was last month, and the monthly statements as heretofore, also the monthly dividend as usual.—Norfolk, June 22.

J. N.

MINING IN SPAIN—ASTURIAS.

SIR,—After partly recruiting our drooping energies at Montefurado by a meal of borona, we thought it convenient to move on in direction of Salime as speedily as would be convenient to our poor apologies for horses. After two hours riding over the tableland which commences at Montefurado, we arrived at Lago. This is a small town situated on the southern rise to the tableland, and is comprised of some 40 houses, including the church and the priest's house, which by the way is always the best one in towns in the interior. This town has also a tavern. Not feeling quite satisfied with our repast at Montefurado we determined to avail ourselves of the present opportunity and refresh both man and beast with the bounties of this place. To our immense surprise, however, we found the town completely devoid of dwellers, not even priest nor alcalde could be met with. We were on the point of giving up searching and continuing our journey when we espied in the distance a something in the form of a human being coming towards us. On its approach we could see that this shape should be a woman, although the covering of dirt would hardly allow our discriminating. On enquiry, however, we were informed that we were in the presence of the tavarnera of the whole town; this information pleased us for the horses' sake. On enquiring why the town was deserted we were told that the new Government road was the cause, since it employed every soul either to work or to look on. Wading through a sea of mud, *en pos* of the landlady, we entered the stable where we saw our nags' need attended to, and then went through into the kitchen. This we found occupied by about a dozen young bantams and a homely old sow and her litter, and the hostess squatted amongst her family busily puffing away at the fire. After making a clean sweep of pigs and fowls, and finding some good sized blocks of wood to sit on, we made the usual enquiry of what there was to cook; the reply was that there was vino blanco, aguardiente, and borona. As neither of these required cooking we thought the reply rather evasive. Several hams hung to the beams. We endeavoured to get the old woman to cut one for us, but all our efforts were unavailing unless we purchased the whole ham. This was out of the question. We asked for eggs, and were informed that there were half-a-dozen, but that these were for the road ganger's supper. We were almost decided to again feed on borona and white wine when a happy thought struck us. As the old lady had refused to show us the eggs we determined to try what a little strategy would

course is generally towards the north-west. The river, therefore, runs diagonally along this strata; but in some places it takes sharp bends from east to west, thus crossing the strata. One of these bends is known by the name of the Remollo; this is situated about a mile towards the south of San Emilio. The bed of the river here consists of unevenly denuded ridges, running through its whole width, and rising abruptly on either side. The dip of these ridges is about 50° out of the perpendicular; the spaces between them are filled with a white yellow clay, impregnated with gold. It was out of one of these spaces that my companion took the 4½ ozs. of gold. The whole of this district has now been registered, and washing will shortly commence; the results will be reported by me.

There can be no reasonable doubt that reefs exist in the district. Those who have time and money at their disposal turn their attention elsewhere, probably because of the hardships to be encountered in ramblings amongst these mountains, but they as certainly leave untraversed districts of untold wealth as that they leave unseen some of the grandest and most beautiful of nature's pictures. Crossing the Navia and going westwards through mountain gorges, whose sides to the summits are covered with oak and chestnut trees, we reached San Martin de Oscos. Here there are several galena and blende mines located, with lodes of from 6 in. to 5 ft. The difficulty that has always been encountered in the working of these is the absence of good roads for transport. Here there is a small smelting works with machinery for all purposes; this is owned by a French company. The director informed me that he had to bring up his fuel (coke) from Vega de Rivadeo, the nearest shipping port, but distant some nine miles. There appeared to be but little animation in working the mines adjoining those of this company.

We left the director of this works with our best wishes for his success, and proceeded on to Vega de Rivadeo. Near to this place we met with several deposits of iron ore. We secured samples from one of them, and on assay I found it yielded 68% per cent.

This has only just been opened up. From its appearance, I judge that it will not be found in large quantities. It is within two kilometres of the mole of Vega de Rivadeo, where there is, at high water, some 12 to 14 ft. A fairly good cart road runs down from the deposit to the mole. Near the port there is an extensive bed of kaolin, which has been taken up by a parish priest, who will probably have read, since he has applied, the fable of the "dog in the manger." I have omitted noting the copper ore and pyrites deposits of Busdemouros, some six miles from this port. These will be noted in another letter, since, having again reached a fairly clean hotel, we cannot forego the pleasure of indulging in a rest for a short time.

Gijon.

THE CAPE COPPER COMPANY,

SIR.—The report of this company shows again splendid results, and enables me to forecast future dividends. We find that there is a sum carried over to next year of 31,000*l.* Now, taking the extraction from the mines to be only the same and the price the same, the profits for 1881 must be 111,000*l.* = 142,000*l.* Dealing in the same way with this sum the directors, after paying some dividends only of 80,000*l.*, will then have in hand a surplus of 62,000*l.*, a sum which certainly will warrant them paying enhanced dividends.

The smelting will also most certainly give an additional profit for the current year now that new furnaces are being constructed. The Cape is not a gold mine, but the directors have a way of turning the copper into gold with admirable skill and punctuality; and this property appears to me to be, at any rate, the champion mine on the London Stock Exchange, though, perhaps, not on that of San Francisco.—June 23.

SHAREHOLDER.

LEAD REPORT.

SIR.—Since our last the market has turned much weaker, and to effect sales a reduction in favour of the buyer has to be given. The following sales were effected:—300 tons rich Spanish lead, 14*l.* 12*s.* 6*d.*; 270 tons rich Spanish lead, 14*l.* 12*s.* 6*d.*; 60 tons ordinary Spanish lead, 14*l.* 10*s.*; 200 tons ordinary Spanish lead, 14*l.* 5*s.* The quantity offering and on the way is rather larger, and includes 600 tons of Greek; and this and the near approach of end of the half-year induces all buyers to hold their orders back. STOCKS.

Newcastle-on-Tyne, June 23.

GUNNISLAKE (CLITTERS) MINE.

SIR.—I think the adventurers in this mine are indebted to "A Shareholder" for his letter, which has evoked a reply from Mr. R. C. Seccombe, entirely corroborating his opinion, and, I believe, the opinion of all who really understand the working of this mine. Mr. R. C. Seccombe says:—"Doubtless the question of a new shaft and larger water supply should receive early attention." Further he says:—"The adoption of some method for letting workmen into and raising them from the mine is of paramount importance, and should receive immediate attention: 400 per cent. per annum would be saved on an outlay of 150*l.*" He also admits that in the event of putting through a new shaft boring machinery would be required. These are straightforward replies to the questions of "A Shareholder," and we are much obliged to Mr. Seccombe for them. The information comes with great weight from Mr. Seccombe, as he understands the property thoroughly, and is a man of high character for integrity and intelligence. Now comes the question of ways and means. These necessary improvements will necessitate the expenditure of a large sum of money, which cannot be raised among the shareholders, many of whom are not willing to pay calls. In short, the mine is being starved for want of support. There is not a finer copper mine in Devon or Cornwall, with ten lodes of copper, which realise 6*l.* per ton in the market, only one of the lodes being worked, and yet it is only just paying its way, and cannot in reality afford the 1*l.* per share dividend which some of the shareholders were determined to have at the last two meetings, against the better judgment of others, who were willing to pay a call. There is evidently no escape from this dilemma, except by raising money in some way to carry out the improvements which are necessary for the development of this valuable property.

The simplest method, and the one most in accordance with the spirit of the times, would be to convert the concern into a Limited Liability company, to subdivide the shares, and dispose of the 400 forfeited shares. We cannot blink the fact that the days of the Cost-book are numbered. The public are not satisfied without knowing the extent of their liability. The avidity with which Limited Liability companies are caught up in the present day proves this.

ANOTHER SHAREHOLDER.

ONSLOW CONSOLS.

SIR.—The points raised respecting this property in the letter upon North Cornwall Mining Enterprise in the Supplement to last week's Journal are a reason for my asking permission to again encroach upon your space. I am not a practical miner, nor do I pretend to any great knowledge of this interesting subject, but when I ventured to differ from your correspondent as to the mine being worked in a wrong way I had in view the report of Capt. George Rickard, who was agent at this mine at the time of its ceasing to be worked, which appeared in the *Mining Journal* about 1863. He states "the shaft is down 50 fms. below the depth that an adit if brought home would cut the shaft," and he approves of further sinkings for the great body of ore. I find also in the Journal of Oct. 3, 1863, page 692, a letter signed "Tributer," in which also it is stated that "the mine is only about 50 fms. deep below the surface of the river." I never pretended that any regard was had for economy, for the agents in the earlier stages seem to me to have acted as if there was plenty of money to be spent, and their business was to spend it. Still, looking at facts as they stand, the two shafts 122 fms. and 80 fms. deep sunk in such a substantial and permanent manner must be of great value to the property for hauling up the lodes off at a point from which the transit to the railway will be easy and cheap.

As regards Sir W. W. R. Onslow's new lease for 42 years at 1-24*th* royalty, it certainly is of such a stamp as should encourage energetic working, and is in keeping with the times of reduced values for metals, so as to admit of profits being earned by the adventurers.

Your correspondent, however, is wrongly informed about my asking a high price for the property. My intention is certainly to retain an

interest in it, and to make sure of its being honestly worked, having sufficient capital without being overweighted. But who would not retain a share in a property in which he thoroughly believes, after the expenditure of several thousand pounds in purchasing the previous lease of the mine, paying up the debts and Stannaries costs of a previous company, getting a proper legal assignment to the mine, besides the costs and charges of the steward of the late Sir Matthew Onslow, in addition to the outlay for machinery and work upon the new mine, all of which was necessary to obtain the property, which Sir W. W. R. Onslow has taken into account in granting the new lease to me while others were after it. However, if your correspondent will write to me, with his name and address, he can easily learn my terms, and we may prove of mutual assistance to one another. But he should write soon, as I am about to bring it out before the public.—*Crammer-road, S.W.*

GEORGE GREGORY.

BWLCH UNITED MINES.

SIR.—Having lately visited Cardiganshire, I took the opportunity thus afforded of visiting the above mines. On arrival Capt. W. Northey took me over the surface, and I was greatly pleased with the work done there, the drawing, pumping, and crushing wheels working first-rate. I was told that a new jigger had been ordered, and would arrive on the mine this week. This with a few necessary alterations on the dressing-floors will be quite adequate work for the present. We then went underground to view the new, now called Marvin's lode, 15 fms. under adit, and it was a beautiful sight, the ore flashing and sparkling like diamonds; it is now 6 ft. wide, with a good mixture of splendid silver-lead ore throughout, and the captain tells me it is improving every day. On arrival at surface, it being late, we postponed going down Ritchie's shaft till the next day. Early in the morning we changed and went down to the lode in the east of the 50'; it is from 4 to 5 ft. wide, composed of carbonate of lime, quartz, blend, and spots of lead—a most kindly looking lode, letting out a great quantity of water. I should not at all be surprised to hear at any moment that a large deposit of lead had been met with. We then visited the lode in the high backs of the 30'. Here is certainly the most interesting point in the mine, the captain telling me he can return from 35 to 40 tons per month of silver-lead ore from this one place alone. The lode is worth about 25 cwt. per fathom. In conclusion, I may say that I was greatly pleased with every point in the mine, and am sure that in a short time it will "speak for itself."

Dalston, London.

[For remainder of Original Correspondence see this day's Journal.]

MAN added that on Dec. 24 a telegram was sent out stopping all payments to Mr. Bankart.

Mr. MARTINEAU said that Mr. Clemes was now the consulting engineer to the company, and he was sure they could not have a better man to advise them.

Mr. CLEMES having explained the plans of the property, said it took in almost two counties, and was as large as London and the suburbs together. Any part of it was at their will for a period of 99 years, with a small observance to the Brazilian Government. The climate was very superior to that of England; it was in about 32° south latitude, and the soil was of an undulating character, something like South Devonshire. The general geological formation of the mine was of a gneiss character, and differed from the granite formation, though many of the elements were the same in each. The village of Lavras was built upon the discovery of gold in the neighbourhood, and probably contained about 800 inhabitants, and there was a river—the Camacuca—running in a very circuitous manner. The shaft at the Aurora Mine was put down by a late captain of the Morro Velho Mines, but he was not a big enough rogue for the Germans he had about him. There was every indication that by further exploration the mine would increase in value, and there were parallel lodes on the southern side, but these had not been explored. The establishment was quite in its infancy, and the whole area explored was not larger than that room, and about twice its depth. Having lived in the Brazil for over ten years, and knowing the strong disposition of the Brazilians in the north-eastern provinces to embark in mining ventures, he was surprised to find that in this province, the people were disinclined to take an interest in mining, and were exceedingly ignorant as to the value of the property. The lode had only been worked for a width of 2 ft., and so far as he could judge he believed the result would be it would yield upon further exploration from 10 to 20 ozs. gold per ton. In his 50 years travels and experience in America and Africa—where he brought out the Cape Copper Company—he had never seen a better property than that which this company possessed, and he thought that with the 25,000*l.* now proposed to be called up, making 35,000*l.*, and with a really good, honest, clever man to manage it, they would have a very valuable property, and one that would not give them any aches or derangements. (Cheers.)

A SHAREHOLDER said 64 ozs. of gold from 18 cwt. of stuff seemed a fabulous return.—Mr. CLEMES replied that there was some stuff among the specimens exhibited that would give 200 ozs. to 1 ton.

Mr. BERGTHEIL thought that if they were able to issue the rest of the shares they would not have to ask for the payment of the 1*l.* 10*s.* per share on the shares already issued which was due in July. That was his own idea.

Mr. GRIFFIN said the value of the mine was something fabulous.

A SHAREHOLDER asked if the title to the property was now satisfactory?—The CHAIRMAN said it was. Mr. CLEMES brought all the documents back with him, and everything was now complete.

Mr. CLEMES said that in their co-proprietors, the vendors in Brazil, they had men of first-class standing, not only as to wealth but as intelligent men, and the shareholders might rest assured that the titles were secured. The company had now entire control of the property.

A SHAREHOLDER asked who was in charge of the mines now that Mr. Bankart had been dismissed?—The CHAIRMAN replied that the second in command, Captain Pooley, was now in charge, but they were not doing any very great work. They were opening down on the Aurora Mine, but nothing had been done with regard to reduction works. Of course what was being raised would be treated when the stamps were put up. What they wanted now was a good honest manager.

Mr. CLEMES hoped the shareholders would not go away with the idea that they were going to get 64 ozs. of gold to the ton; but there was every reason to believe that they would have 2 or 3 ozs. to the ton, and that would be a very good result.

The CHAIRMAN said they had the concession for a large tract of country, and he hoped that when Rio Grande was established among the valuable mines, they would be able to lease out some of the other properties either for a fixed sum or at a royalty.

Mr. BERGTHEIL remarked that the directors had much more confidence in the property since it had been inspected by Mr. CLEMES, and he trusted that the shareholders would assist them in carrying operations out to a profitable end. (Applause)—The meeting then closed with a vote of thanks to the Chairman and to Mr. CLEMES.

KAPANGA GOLD MINING COMPANY OF NEW ZEALAND.

A general meeting of shareholders was held at the offices, Austin Friars, on Monday.—Mr. TUFNEL SOUTHGATE in the chair.

Mr. W. J. LAVINGTON (the secretary) read the notice calling the meeting.

The CHAIRMAN said when the shareholders last met the directors felt disappointed that Mr. CLEMES was not with them, but he would have been present had he known the date of the meeting, but not knowing that he went straight off to Falmouth. He (the Chairman) then stated that when Mr. CLEMES came up to London he would be invited to meet the shareholders, and that the ore which he brought over should be opened in his presence and properly assayed. The boxes were opened at the offices of Messrs. Johnson, and Mr. CLEMES was able to see that everything had been left just as he placed it at the mines, and also as regards taking fair samples for the assays. The whole of the ore was broken up and placed in one heap a certain height. Then in order to take the samples fairly the men made a cross trench longitudinally, and then two cross-cuts, so that the two cwt. of stuff that were assayed were taken out of the heaps quite fairly. In a great many cases assays were taken from one or two rich stones, and thus the result was by no means a correct one; but in this case there could be no doubt that every precaution was taken to ensure an accurate assay. The rest of the ore, amounting altogether to 18 cwt., had been crushed up and samples taken of the whole, and the remainder was going to be sold just as it is. Having introduced Mr. CLEMES to the shareholders, the Chairman read the report made by that gentleman on the position and prospects of the property. [This report appears in our advertising columns, and is well worthy of attentive perusal.]

The CHAIRMAN then said with respect to the report he might say a few words as to what, under Mr. CLEMES' advice, the directors considered best to do. The present reduction works were situated at the village of Lavras, four miles distant from the mines, so that the cost of transporting ore and materials from and to the mines was very great, and the wear and tear of carriages and animals—the country being a hilly one—was very considerable in fact. The water in the river at that point was not in sufficient volume to work all the ore, and Mr. CLEMES had wisely selected another site, distant only a mile and a half from the mines. A tramroad or a winding road for the present could be made, and thus a great saving would be effected in the carriage of ores and materials. Mr. CLEMES had discovered a large iron water wheel, which had only to be removed to the new site and erected, and then they would be able to put up the stamps. This discovery would, of course, save them a good deal of expense. With regard to the samples from the Aurora Mine which Mr. CLEMES brought over in separate boxes, four of them were assayed by Messrs. Johnson, with the following result:—No. 1 gave 63 ozs. gold, and 24 ozs. silver per ton of 20 cwt. No. 2 sample gave 64 ozs. gold and 17 ozs. silver per ton of 20 cwt., and the sample taken from the large heaps of rough ore gave 33 ozs. gold and 11 ozs. silver to the ton. There was 150 tons of this stuff at the mine ready to be crushed as soon as they got the water wheel erected and the stamps at work. If they took Messrs. Johnson's assay of 64 ozs. of gold to the ton, no doubt they would be able to pick out a great deal of that, and that would give them the value of the gold and silver 233*l.* per ton of ore, which he need hardly say would leave a very handsome profit in crushing; that is to say, if the pay part of the ore were picked out and crushed separately, and they took out the rest, the average would be something like from 4 to 6 ozs. of gold to the ton, which would also give very handsome results. Mines getting less than half an ounce of gold to the ton were paying good dividends, and with an average of from 4 to 6 ozs. of gold to the ton he thought their mine would be second to none yet before the public.

Mr. CLEMES said, with respect to the assay of 33 ozs. to the ton from the large heap, that he fancied there must have been some mistake in selecting the samples, for he would not compute it to contain more than from 1 to 2 ozs. to the ton. In any case the mine was richer now than when he knew Morro Velho first, and he could say that from personal observation.

The CHAIRMAN added that it was extremely difficult to get a proper gold assay without treating about 150 tons of ore so as to get a fair average. The directors proposed to issue the remaining capital according to the original prospectus. They had now issued 500*l.* shares, besides the 2400 shares, and they now proposed to issue the remainder of the 12,400*l.* shares. The first prospectus had been registered in the Brazils, and it had been thought better to make up the first issue of 12,400*l.* shares, and they would then have a balance of 4913 shares to complete the first issue according to the prospectus, and on this issue it would be proposed to make the calls in this way:—1*l.* on application, 1*l.* 10*s.* on allotment, and the balance by two instalments at intervals of not less than three months if it were found necessary to call up the remainder. It was desirable that they should issue sufficient shares to enable them to get a quotation on the Stock Exchange, for though the fact of a quotation was no criterion of the value of a mine, some people were inclined to be suspicious if a mine did not appear in the list. Mr. CLEMES, having so recently returned from the mines, would give the shareholders a fair and truthful account of what he had seen and what he thought it best for them to do for the welfare of the company.

Mr. GRIFFIN asked what amount of cash the company had for current expenses?—The CHAIRMAN said the balance at the bank was about 600*l.*

The CHAIRMAN, in reply to a further question from Mr. GRIFFIN, who said he had only just returned from the Brazils, said a call had been made which, when paid, would leave them with about 9000*l.* in hand, including the balance at the bank. The number of shares issued was 5081*l.* and the last call made was 1*l.* 10*s.* per share.—Mr. GRIFFIN asked whether it was thought that the shareholders were going to pay up?—The CHAIRMAN said it was, and that a great many shareholders had already paid up in full.

Mr. BERGTHEIL thought the report was a very satisfactory one, especially when it was remembered that Mr. CLEMES was not sent out to get a prospectus, or to float the mine, but really to find fault and to see whether the statements upon which the property was sold were true or false. (Hear, hear.) This being the case he hoped that no shareholder would be so foolish as to forfeit his shares, though it would be a good thing for the rest of the shareholders if they did so, for the shares would in a short time, he hoped, be saleable at a large premium. (Cheers.) The shares had already, since Mr. CLEMES' return, gone up to a considerable premium. Mr. CLEMES went to the mine with his mind prejudiced against it and its management, and he came back bringing with him 18 cwt. of stuff collected under his own eyes from fairly taken samples, of which they obtained a result of 64 ozs. of gold and a considerable quantity of silver to the ton. Could any man in his senses wish for anything more satisfactory so far as the mine is concerned? He could not say so much for the management. The directors had done all they could in this respect, but he admitted they had been unfortunate. They had, however, secured an undoubted title to the property, and all they wanted was to work on as partners in a peaceful manner. With the assistance of the shareholders he believed the property would be a fortune to them, but with discredit their shares would not be worth sixpence. (Cheers.)

Mr. GRIFFIN said the property was of enormous value—(hear, hear)—but the management out there had been one of the most confounded he had ever heard of. (Hear, hear.)—Mr. BERGTHEIL remarked that Mr. Bankart had been dismissed but they had to take legal proceedings to get rid of him.—The CHAIR-

MAN added that on Dec. 24 a telegram was sent out stopping all payments to Mr. Bankart.

Mr. MARTINEAU said that Mr. CLEMES was now the consulting engineer to the company, and he was sure they could not have a better man to advise them.

Mr. CLEMES having explained the plans of the property, said it took in almost two counties, and was as large as London and the suburbs together. Any part of it was at their will for a period of 99 years, with a small observance to the Brazilian Government. The climate was very superior to that of England; it was in about 32° south latitude, and the soil was of an undulating character, something like South Devonshire. The general geological formation of the mine was of a gneiss character, and differed from the granite formation, though many of the elements were the same in each. The village of Lavras was built upon

Watson, who is *facile princeps* in mining matters, and he lent us the money last month, and I suppose we will do the same again. (Cheers.) I suppose he thinks there is a chance of getting it back with something else. (Hear, hear.) Well, the sums I have mentioned would make a hole in 20,000.

A SHAREHOLDER: In other words you contemplate the 25,000/- being called up?—**Mr. PETER WATSON**: Certainly. Ultimately; but not all at once.

The CHAIRMAN: Capt. Nancarrow says that it will take 12 months to go down to the depth we propose, but perhaps it would be safer to put it at 13 months.

Mr. MC GREGOR: What chance have you of getting the money?

The CHAIRMAN: We have sent out a circular, and have received replies from several shareholders stating that they will take up their quota, and we have also received communications from one or two persons who are not shareholders, stating that if there are any shares left over they will take them. (Hear, hear.) I may mention that we have received a large number of proxies to-day in favour of the resolutions being confirmed, which, of course, is confirmatory of the course proposed to be adopted. I may add that several shareholders have agreed to take more than their proportion.

Mr. MC GREGOR: Asked whether shareholders could apply for any number of shares they liked. The CHAIRMAN: Certainly; shareholders can apply for as many as they like. —**Mr. PETER WATSON**: I shall apply for more than my share. (Hear, hear.) —**Mr. WILSON**: said he and his friends intended to apply for their proportion of shares.

Mr. GIBBS said the position of the company was very much better than 12 months ago; then there were considerable liabilities and directors' fees; that was now altered, and the company was undoubtedly in a better position.

The CHAIRMAN, in reply to Mr. MC GREGOR, said he had not information at hand which would enable him to give the depths to which other mines in the locality had been carried.—**Mr. PETER WATSON**: In the *Mining Journal* of last week I see that one gold mine returned 13 tons of gold in one year, which would be about 350,000 ozs., or 1,000,000/- worth of gold.

The CHAIRMAN: We then moved the confirmation of the two resolutions given above, passed at the meeting held on June 2. —**Mr. PARRY** seconded the motion.

Mr. BOLTON, sen., said that at the last meeting a suggestion was made that the shareholders who wished could pay up their shares in full, so as to be able to claim the bonus shares. He should be glad to hear from the Chairman whether shareholders could pay up in full.—The CHAIRMAN: Should any shareholder wish to pay up his shares in full, so as to acquire the bonus shares, the board have come to the conclusion to accept the same. (Hear, hear.)

A SHAREHOLDER asked whether any interest would be paid on the amount so paid in full?—The CHAIRMAN: No, we give him bonus shares, but no interest.

Mr. PARRY: At what rate do you propose to call up this money?—The CHAIRMAN: We propose 2s. 6d. on application, 2s. 6d. on allotment, and the balance as may be required by the directors.

The motion was then put and carried.

Mr. PARRY moved a vote of thanks to the Chairman for the courteous way in which he had conducted the business of the meeting?—**Mr. MC GREGOR** seconded the motion, which was put and carried.

The CHAIRMAN acknowledged the compliment, and said he wished again to mention that each shareholder could apply for any number of shares he liked.

The meeting then broke up.

QUARTZ HILL CONSOLIDATED GOLD MINING COMPANY.

The statutory meeting of shareholders was held at the Cannon-street Hotel, on Wednesday,

Sir RICHARD GETHIN in the chair.

The notice calling the meeting was read by Mr. EDWARD JENKINS, the secretary.

The CHAIRMAN said that this was the statutory meeting held in compliance with the Act, which required a meeting to be held within four months of the registration of the company, and the directors were very pleased to meet the shareholders on the present occasion, because they were able to report very favourably on its present position and future prospects. The directors had received numerous statements in reference to the property, all of which were of the most satisfactory character, and some of them were from men whose opinion was universally admitted in all mining matters to be reliable. The directors had taken every possible means to verify these statements, and had found them substantially correct. The working of the mine was taken over on May 1, and they had appointed Mr. Fagan as manager of the mine for three years, who had had considerable experience in mining matters. Mr. Fagan was present, and would be happy to give further particulars as to the capabilities of the mine.

Mr. FAGAN said he had been connected with the mine six or eight years, and had been in the Colorado district for upwards of 16 years. This mine was known as one of the best in the district. They had got 1300 ft. deep, and he had taken out \$900,000 in gross, and had made \$230,000 of net profits. He commenced working with little or no machinery, and at the present time they had got, probably, one of the finest mills in the country and the finest pumps to be found in the Rocky Mountains, and they had the finest set of machinery, which could not be duplicated for less than \$100,000. It had produced \$8000 to \$13,000 gross per month, making 25 to 30 per cent. profit, and he hoped and believed that in August they would commence paying dividends. The dividend for the first two years would be small compared with what it would be afterwards. All these mines when developed, which he hoped would be in the next 18 months or two years, would pay equally well. In the Kansas Mine, at the bottom of the shaft, they had the best ore they had yet found. It would be three or four months till they got into the new vein. They could not tell how big that vein was, or how far it would extend. His opinion was that it was an entirely new vein, and if so, there would be 1500 ft. of additional ground to work upon. At the end of 18 months they ought to be able to double the amount of dividend. This year he hoped they would make 5 and 8 per cent. dividend. The object of the directors would be to develop the mine as fast as possible.

Mr. FAGAN, in reply to a question, said they might do better than 5 per cent. this year, but in making statements regarding dividends it was always well to keep within bounds. The dividend of 5 per cent. to which he referred was on the Kansas Mine. There were other mines which could not be worked for 12 or 18 months. The manager states that a dividend will be paid in August next. He then read a long statement from Mr. Craven, the under-manager, now working the mine, who will commence crushing next week, and the gold will be shipped to London next month, and increase every month; in fact, he stated the company would, in his opinion, be able to pay over 50 per cent. within 18 months.

A SHAREHOLDER: How much can you raise?—**Mr. FAGAN**: About 25 tons per day from the ground which is open. At the end of the year he hoped to have 25 or 30 men more at work. It was only a question of getting the levels down, and then they would get into more ore and run all the mills. When they got down about 300 ft. they expected to get into the Californian vein, which was one of the best veins in the district. If the veins came together the oldest property, which was this company's property, had the right to follow the vein wherever it ran.

Some desultory conversation ensued in the course of which Mr. Fagan expressed his entire confidence in the future of the mine.

The CHAIRMAN, in reply to a question, said that 58,944 shares had been applied for, besides the vendors' shares. That was not sufficient to enable the directors to obtain a Stock Exchange quotation, but the board intended to issue the remainder of the shares on hand.

A SHAREHOLDER called attention to the fact that in the prospectus the statement was made that 100,000 shares had been applied for, and he could not see how that statement could be reconciled with the statement now made that only 58,944 shares had been applied for. The CHAIRMAN said the directors at the time they made that statement in the prospectus were led to believe 100,000 shares had been applied for as stated, and any shareholder on applying at the office could receive full information on that point.

Some discussion ensued on the point, after which the meeting broke up.

THARSIS SULPHUR AND COPPER COMPANY.

The annual meeting of shareholders was held at the Merchants' Hall, Glasgow, on Wednesday,

Mr. CHARLES TENNANT, M.P., in the chair.

The usual preliminaries having been disposed of, the report of the directors was presented, showing that the profits for the 12 months ended March 1 (including last year's balance of 14,610/-) was 302,509/- 12s. 1d., out of which the directors recommend a dividend of 25 per cent. free of income-tax, which will absorb 284,165/-, leaving 18,341/- 12s. 1d. to carry to credit of next account. During the year 99 capital shares of the French company were redeemed for 1033/- 2s. 8d. leaving 411 unredeemed, representing 4289/- 1s. 5d. Of the 100,000 shares 346 were exchanged for 173 full-paid Tharsis shares. There are still 1180 Joussaines shares outstanding. All the exchanged shares have received payment of the dividends due thereon. The amount of dividend due and still unclaimed on these shares is 216/- 2s. The shareholders will remember that while they were merely lessees of the mines the Tharsis Company purchased, in the open market, 2304 Joussaines shares of the French Company—a purchase which, at the time of the fusion, entitled them to receive in exchange 1152 shares of their own Tharsis Company. By the sale of 1000 of the shares they have completely refunded the original price of the whole, besides realising a profit of 14,982/- 2s. 8d., which is added to the profit and loss account of the present balance.

The total mineral raised from March 1, 1880, to March 1, 1881, at Tharsis and Calanais, is 373,059 tons, as against 438,485 tons during the previous financial year. The large accumulation on the mines of stocks of ore from previous years induced them to curtail their output, so as to work up a portion of these stocks, and turn it into money. The supply of labour has been all that they required, and their work-people have been industrious and contented. The main-fall has been abundant, and their stores of water larger than ever before, assuring them of supplies for their copper production for a long time to come.

The working of the railway, pier, cranes, and mineral depot, &c., at Corrales, continues satisfactory. Of pyrites there were shipped 186,252 tons of large ore, and 5843 of small ore—a total of 192,095 tons. Of precipitate there were shipped 7753 tons. The amelioration of the portion of the line at the San Bartolome river, alluded to in last report, and for which the sum of 10,000/- was laid aside from the profits of 1879, has been carefully studied, and is about to be carried into effect, and it is hoped may be accomplished satisfactorily at a sum considerably less than the above estimate. In all other respects the railway and rolling stock are in excellent order, and are maintained in a state of thorough efficiency.

The production of the metal works has gone on with regularity during the year. They are all being gradually equipped for the extraction of silver and gold by the Claudet process, which was begun in 1879, and is now being worked by the company under a license from the patentees. The outlay at all the works in furnishing the necessary plant amounts to £535/- 7s. 2d. All repairs have been charged to revenue. The depreciation at 5 per cent. is £11,374/- 1s. 3d.; a reduction on the metal works property account of 483/- 7s. 1d.

The pyrites invoiced to customers amounted to 179,045 tons, as against 159,264 tons. The iron ore produced was 190,925 tons, and the quantity delivered 166,616 tons. The production of copper has been satisfactory, and the prices for

iron and copper have been better on the average. There was no change in the price of sulphur. The silver and gold extraction is giving good results, and all the works are expected to be in full operation in this department during the greater part of the current year.

About the beginning of January last a new process for the extraction of the precious metals patented by the late Monsieur Desnoille, Chemist, Paris—the rights of which had been acquired from him by influential parties in that city—was brought under the notice of the directors. Experiments on Tharsis and other similar ores, conducted on a small scale in Paris, gave promise of profitable results; and negotiations led to an agreement by which the Tharsis Company obtained the right to acquire a large share of the control and benefits of the process. Investigations on a much larger scale have been in progress in this country, and are still being prosecuted; but the directors are not yet in a position to report that the results obtained on the small scale in Paris have been confirmed on the large scale at their works. The experiments will be carried to an exhaustive conclusion. The original patents contemplated merely the treatment of gold and silver ores, and embrace a great part of the world, as does also the agreement they have made. As yet it has not been possible to procure such ores for an extensive trial in this country; but there is now the prospect of their doing so ere long, and should results render a special report to the shareholders desirable during the current year the directors will not fail to issue it.

The various inventories of stocks in this country and in Spain have been carefully supervised by the directors and auditors, and have been valued at safe prices. The mines in Spain have been written down by the sum of 20,000/-; the miscellaneous assets by 20,000/-, which now extinguishes them; and the sum of 30,000/- has been carried to the reserve fund. The whole of these items have been charged to profit and loss.

The debentures the sum of 33,500/- fell due on Dec. 1, when the bonds were paid off.

The CHAIRMAN, in moving the reception and adoption of the report and accounts, said that they were inclined to think that a rearrangement of the company's stock might, with advantage, be gone into at this moment, which would enable a satisfactory settlement to be come to with the 7s. holders, and which would, at the same time, tend to strengthen the position of the company.

The rearrangement they contemplated would involve the calling up of 12, on the 7s. shares, and consolidating them into stock. It would also involve

the raising of the total authorized capital of the company from 1,236,667/- to 1,250,000/-—an increase of 13.34%, by which the creation of a certain number of new shares, which would not be issued to the shareholders, but would be retained by the company, and only sold as their debentures fall due, and for the purpose of paying them off. The first of these debentures fall due in 1883, and the last in 1886. Their desire was to get rid of all preference claims, for such these are, and let the whole earnings of the company vest in the shareholders. This is the position at which they are aiming, and which their scheme will enable them to reach. The propriety of reducing shares from 12/- to some lower figure, so as to bring them within the reach of small investors, is also engaging their attention. The details would be laid before them in a special report; and the directors thought they would find therein an acceptable solution of the 7s. shares, and at the same time a proposal which will be advantageous to the general interests of the company.

The motion having been seconded by Mr. ALFRED MESSEY and agreed to, the retiring directors were re-appointed, and a cordial vote of thanks having been accorded to the Chairman, the meeting terminated.

BRAZILIAN GOLD MINES.

The first annual general meeting of shareholders was held at the offices of the company, Palmerston Buildings, Mr. ROBERT WILSON in the chair.

The notice calling the meeting was read by Mr. G. C. HARVEY, the secretary. The report of the directors, which has been forwarded to each shareholder, was taken as read.

The CHAIRMAN said: Gentlemen, before proceeding to business I regret to inform you of the death of our friend Mr. Harvey, and I am sure you will share the regret which the directors feel at the loss which we have sustained by his death. (Hear, hear.) I have also to announce that Mr. Carne, residing at Liverpool, from illness and old age, has resigned, and we have elected Mr. Thomas Tregellas in his stead. Mr. Tregellas has been at the mines, and we believe that from his experience he will prove a great acquisition to the company. Turning to the report and accounts, you will observe that the capital of the company is 80,000/-; our issue is only 40,000/-, and the subscribers to the first issue are entitled at any period up to the end of this year to call and receive share for share by paying 12/- per share. That option expires at the end of this year. We have purchased the property for 20,000/-—namely, 6000/- in cash and 14,000/- in fully paid shares. When these accounts were made up there was 1100/- due on calls, but it has since been reduced to 600/-, which is owing by one shareholder, and he has promised to pay the whole amount by the end of next month, with interest.

Mr. ALFRED PARRICK: Do you regard it as a good asset?—The CHAIRMAN: Yes; we hold 1000 shares as security. You will see by the report that Mr. Greig, the vendor, owes the company 318/- 1s. 3d. in respect of his proportion of agreed costs in Brazil. That may seem a curious amount, but I may mention that when the property was transferred out from the original proprietors into a name, and then from that name into our company, we had to pay double stamp duty and other legal duties, which are disputed by the vendor, and he left us 1000 shares as security; but as the dispute is settled we shall call upon him to pay up that amount. You will see that the salaries and wages and working expenses in the mines amount to 238/- 1s. 1d., including Government duty and stamp; the commission on transfer of property in Brazil and manager's drafts, 38/- 1s. 3d.; the preliminary expenses (being legal expenses in London, stamps, registration of company, and brokerage), 152/- 1s. 8d.; and the directors' fees, travelling expenses, &c., make up the balance. The London expenses are rather large, but they include the brokerage, stamp duty, and law expenses, and everything connected with the registration of the company. I do not know that I have any more remarks to make upon the accounts. At the present moment we have 10,000/- on deposit; in current account at 20%; calls unpaid, 600/-; due by the vendor, 318/-; in Brazil at the end of the year, 400/-; so that the total assets were 11,519/- 1s. 3d. We have received good letters and advices from Brazil, which were not received in time to send out with the report, and I cannot do better than read them to you. The first I will read was received on Saturday last, and is dated May 12:

Cachet, Brazil, May 12.—I had this pleasure on April 22, since which I have received your esteemed favour of March 23, and await your further commands and enquiries relative to my detailed report. I desire now to inform you of our progress for the past three months.—Servicio Velho Mine: Harvey's level (250 ft.) is advancing fairly, the large quartz lode we tried to avoid in drifting came in on the west side for 2 ft. in width, and is being carried with the level; a branch lode, also 2 ft. wide, has been running with the course of the lode towards the main Descoberto lode, and producing gold in the samples. We are saving all for further treatment. All shallow work in this section await the deeper drifts. Mata Mata Mine: The north and south drifts are improved in width; the more we see of these levels confirm us that depth is necessary to a uniform lode. Jacutinga: Two levels are nearly complete; we propose to follow every line showing gold in the samples.—Surface: Five or six pairs of sawyers are well supplied with timber from the estate at the price of felling and carriage.—Forest Work: The season is favourable for cutting timber for planking and underground requirements. Contracts for tile, grass (for roofing purposes), carriages of timber, and charcoal—in fact, we are contracting for every description of work practicable to the Brazilian. The blacksmith's shop is complete, and the water blast at work. Carpenter's shop awaiting tile. Patterns for ironwork used in making tram wagon ready, and wagons being built. The water supply to work the mines is being measured. The mine sampled at all hours, and all extra costs in labour avoided. The materials supplied from Hayle arrived; a portion supplied from Tangye Brothers arrived; omitted to be shipped on your side as per particulars enclosed, and not on B. of L. with me, and wanted for Englishmen's houses. I enclose duplicate letters from Messrs. Johnston and Co. for your information. The drafts drawn to date amount to Rs. 7000—March 1, Rs. 3000; April 1, Rs. 1000; April 19, Rs. 1400; May 1, Rs. 1600: total (as above), Rs. 7000. I returned to Mr. Lott the account of the money I drew at Rio to pay expenses up country of self and staff—see cash account.—Samples: Having addressed you on these previous letters, I do not see the necessity of your spending any money in assays; if you desire it I will forward a duplicate set of those tested by our process. I find it very cold temperature, falling at night below 60°.—F. GEACH.

The CHAIRMAN: I will now read the mining captain's report for April, dated Descoberto, May 1:

I beg to hand you the report of the Brazilian Gold Mine (Limited) for the month of April:—At Servicio Velho we have driven 45 ft. accompanying a cross-course which showed gold; and is improving as we get nearer the main lode running through the Descoberto; and this we are saving for the stamps. At Matamata we have driven south 32 ft. on the course of the lode; for part of the drift we have had some rich samples. North we have driven 10 ft.; the end is very much improved in appearance, and this we are saving for the stamps. At the deep adit we have driven 35 ft. west towards the Metamata lode, and have crossed a line showing gold, with a large percentage of mundic, and in this level we are preparing to lay down a tramroad. In the Jacutinga we have driven 60 ft., and have crossed two lines showing gold. This end is suspended, and we are now driving east on a course showing gold, where No. 2 sample was taken from and sent to London. This purpose to communicate to the level driven north-east, and when holed will give air to drive on the courses seen in that level.—JOHN TRUMAN.

The CHAIRMAN: We also received the following letter:—

Cachet, Brazil, May 22.—Servicio Velho Mine: Harvey's Level (250 feet): The quartz lode on the west of the drift slightly changed its course; the lode in the end is a strong mixture of quartz and a black, iron-stained rock, with portions of the Descoberto lode, letting down water. The whole width of the drift is saved for future treatment; producing a uniform sample of gold.—Mata Mata: The north drift is as formerly reported. The south drift has passed through a quantity of rock-lode, and is again in softer ground. At Wilson's we have drifted through a strong lode, running west of north through Mata Mata—underlie east; 5 ft. wide, containing a close-grained bluestone—matrix highly charged with mundic throughout, which on treatment produced gold. I believe I am correct in stating nothing of this lode has been found by the Brazilian "garimpeiros"—gold hunters. Jacutinga: We have communicated the drift to the north-east level, and are rising diagonally across the strata to the shaft, continually testing the veins by samples, and detecting the presence of gold.—F. GEACH.

The CHAIRMAN: There is also another letter of the same date which I will

last general meeting asked a question with regard to the duplicate parts of the hydraulic apparatus, and it was explained they would communicate with Mr. Darlington, and ascertain from him whether he would recommend any particular parts to be duplicated; but unfortunately Mr. Darlington had been obliged to go to Spain, and he was not, therefore, able to be present here to-day. Mr. Thomas, however, was present, and would be pleased to give all the information in his possession upon the subject, but it would be as well to mention that provision had already been taken in the agreement with Mr. Treverton, the engineer recommended by Mr. Darlington, for working the accumulator with water instead of steam power. They were now expecting from Mr. Treverton a report on the subject as to whether the 60-ft. wheel with a small outlay could be utilised for the purpose, and so soon as Mr. Darlington returned to London the directors would at once confer with him as to his views as to sending out any duplicate parts, such as a duplicate engine, which would place the company beyond the reach of accident in the event of the present engine breaking or failing for any time. The Chairman then moved the adoption of the report and accounts.

Mr. RYAN seconded the motion. He said, although there was an item of 34% in the accounts for the directors' fees, they had not taken any. They received in the beginning of the year 62/-, and the rest consisted of salary of the managing director. The next item for salaries (22%) was for the clerks in the office, and they had reduced that to 156/- The office rent had also been reduced as much as possible, so that he did not think they could be charged with extravagance in London. With regard to the debenture interest, probably some of the debenture-holders were under the impression that their debentures were now running at 30 per cent. That was not so. Some question was raised as to what interest should be continued after the contract for 12 months, and they took counsel's opinion on the subject, which resulted in its being fixed at 10 per cent.

Mr. HILL thought it a most ungracious thing to reduce the rate. It was taking advantage of their own default, because they did not pay up at the time the interest was due.

Mr. DAWSON explained that 20 per cent. of the first year's interest was to be paid as a bonus, and begged the debenture-holders to remember that it was not a question as to what interest the directors wished to pay, but at what rate the debtors would be justified in paying it were thought desirable a meeting of the debenture-holders would be called to put the matter before them.

Mr. HILL said he would be quite satisfied with that.

Mr. DAWSON, in reply to Mr. RANSFORD, said he did not think there would now be any difficulty in forking the mine.

The motion for the adoption of the report was then put, and carried unanimously.

The retiring directors and auditors were re-elected, after which a vote of thanks to the Chairman and directors terminated the proceedings.

WEST CARADON MINING COMPANY.

The general meeting of adventurers was held at the offices, Gracechurch-street, on Friday, June 17.—Mr. H. L. PHILLIPS in the chair.

Mr. JOHN WATSON (the secretary) read the notice convening the meeting, and the following report of the agent:

In presenting you with the report for the general meeting to be held on the 17th, I may remark that we have now fixed a footway from the SS to surface, and we shall now be enabled to examine all points above this level, and make every preparation for working this ground more effectively when the cross-cut is holed to the winze we have just sunk. I may here notice that this ground cannot be worked to advantage until this is accomplished; we have, therefore, decided on suspending the level now being driven west, and increase the number of men in the cross-cut south as there is not sufficient air to drive both at the same time, and every effort will be made to accomplish this work as early as possible. The lode in the 42, west of Hallett's cross-course, will yield 1 ton of copper ore per fathom. The rise in the back of this level will yield 1½ ton of ore per fathom. The men are making fair progress in the 33 cross-cut, south of Hallett's shaft, driving for 5/- per fathom. In conclusion, I beg to say I see no reason to alter my opinion of this piece of mineral ground, and still believe it deserves a spirited trial and that the shareholders will ultimately be rewarded for their outlay and perseverance.

The CHAIRMAN asked Capt. Richards whether there was anything he wished to add to the report?—Capt. RICHARDS said there was really scarcely anything fresh to report. The ventilation was still bad, and they could not get the stuff to surface, and could do nothing on the lodes at present, until the cross-cut was holed to the winze which had just been driven.

The CHAIRMAN: How many men are there in the cross-cut?—Capt. RICHARDS said there were four, but he intended to put on six. They were giving 5/- per fathom, and the men were earning good wages.

Capt. JOHN ROBERTS then read his report, as follows:

In handing you the report for the general meeting to be held on the 17th inst. I would remark that although we have not as yet met with any large deposits of ore, I may say that at nearly all points whether driving, sinking, or rising, we have discovered ore in greater or less quantities. We have now cleared and secured the 33 in Gilpin's lode, and placed a pair of men to drive on branch with a view of reaching the lode in more settled ground; the lode at this point being disordered by coming in contact with Kellow's lode. We have a long run on this lode west, and we have every reason to believe that it will improve when we get into more settled ground. This lode in the winze sinking below the adit level is producing some rich copper ore. Vivian's north lode in the back of the 50 will yield 1½ ton of copper ore per fathom. This lode in the winze sinking below the 33, west of cross-cut, will yield 1½ ton of ore per fathom. Same lode in the rise in the back of this level, east of cross-cut, will, I am pleased to say, yield about 3 tons of ore per fathom; we have much whole ground here, and in all probability will be found productive. We still think that this lode was missed by the former workers, but this we shall prove as we proceed. A step to the east of this point on same lode will yield about 1½ ton of ore per fathom. The part of the cross-cut we are now clearing at the 50, south of main lode, is much crushed, consequently the progress is at present rather slow. We sampled on Monday last computed 150 tons of fair quality copper ore to be sold at Truro on the 23rd inst.

Mr. SCHOFIELD asked whether the high parcel of ore was selected from bulk?—Capt. RICHARDS said they drove through ground of which he had a good opinion, and a great portion of the rich ore came from that ground. It came from one lode, which did not continue so rich all through.

Mr. SCHOFIELD: You have no course of ore in any level worth that?—Capt. RICHARDS: No, not at present.

The CHAIRMAN: It is important to notice that in Vivian's north lode, in the rise in the back of the 33, east of cross-cut, will yield about 3 tons of good quality ore per fathom.—Capt. RICHARDS said it was in the best lode, and was splendid-looking ore.

Mr. GUTTEREZ: How much will you give us in the next four months?—Capt. RICHARDS: We shall want to discuss that when we come to consider the amount of the call.—The CHAIRMAN: Shall we do as well in the next four months as in the past four?—Capt. RICHARDS: I hope so; there is every probability of it according to present appearances.

Mr. C. B. PARRY: I have had the mine specially inspected by Capt. John Roberts, who is here, and will read his report.

Capt. RICHARDS, in reply to a further question, said the cost for the next four months would be about 900/-, but he hoped they would get better results.

Mr. SCHOFIELD said that in considering the amount of the call they must calculate on wanting 900/- for the next four months.—The CHAIRMAN asked Mr. Watson what amount of call he thought would be required?—Mr. WATSON said he thought a call of 1s. per share would be ample.—The CHAIRMAN: I agree that a 1s. call will be ample. If we are, as I believe we are, in a good enterprise it would be bad policy to cripple the thing for the want of 3d. or 6d. per share. (Hear, hear.)

Capt. JOHN ROBERTS said that at his recent visit to the mine, a few days previously, he had inspected the workings, and made notes underground. He was informed that the mine had considerably improved since Capt. Richards was there. The following was a brief report of what he had seen and noted:

June 17.—Agreeable to the request with which you have favoured me, I write the following report from my notes made yesterday and the day before whilst inspecting this mine. At the 50, west of Hallett's cross-cut, on Vivian's north lode, there is a rise by four men, where the lode is worth 12/- per fathom. Below this level the lode is not cut or seen anywhere in the mine; and as this ore is a continuation of the course of ore at the 33, it will, no doubt, continue down as other courses of ore in the mine have done. In the bottom of the 33 this same course of ore is worth, in the eastern end of the winze, 10/- per fathom, and it appears to be just of the same value for some distance away from the winze. The rise is about 3 or 4 fms., to the east of the winze, where there are six men working on a lode, worth from 20/- to 25/- per fathom, and the ore requires but little dressing. This same level is driven for a great distance, I should say 60 fms., on the course of the lode, without having a single rise or winze to prove the lode. Passing through this level I observed in different places where there have been blasts put into the lode, good strong patches of ore which would, no doubt, improve if they were tried further. At the back of the 33, on Vivian's north lode, there are two stoves just commenced; the first is worth 5/- per fathom, and said to be improving. The second is higher up the roof, and the better one. When I was there a hole was bored over 2½ ft. deep in solid copper ore, and although little was to be seen, it laid open one leader of ore 8 in. wide, and another 6 in. wide, with still more standing in the footwall. We may safely value it at 12/- per fathom. On Gilpin's lode at the adit level there is a sump which is being sunk by four men. The lode is about 6 to 8 in. wide containing good strong patches of copper ore, worth 3/- per fathom. The roof over I could not examine; but I was told that it is much richer. There is on this lode a great deal of ground yet unexplored, and offers a good chance for opening out a good mine in itself. Considering the short time that you have been working, it must be considered that you have achieved a great success. The different points you have in operation are worth, in the aggregate, 62/- per fathom, and if the mine continues to improve as it has done for a short time it will be worth double that amount.—JOHN ROBERTS, M.E., M.M.S.

Looking at the mine altogether he considered that the shareholders had a splendid property; and he had no hesitation in saying that if the mine had been worked as it ought to have been by the former workers it would have been working incessantly to the present day. (Hear, hear.) It seemed to him that, after discovering several large courses of rich ore, the old workers worked under them just whilst they continued, and took out the eyes of the mine, and for that reason the whole thing collapsed. It did not require much skill to work out a course of ore after it had been discovered—(a laugh)—and it seemed to him that was just what the old workers had done at West Caradon. He believed the present workers had a grand future before them. (Cheers.)

Capt. RICHARDS said the lode which Capt. Roberts saw worth 3 tons per fathom would, he believed, go up to the north. There was a branch of ore there in several places.—Capt. ROBERTS said, of course, it was impossible for a stranger to go into such a mine and become acquainted with all its ramifications and peculiarities at a single visit.

Capt. RICHARDS said that with regard to the 50 fm. level he was of the same opinion as Capt. Roberts. They had never tried the bottom of the 50; they had discovered ore, but had never sunk an inch, and that lode might be going down just the same.

A SHAREHOLDER suggested that before the next meeting Capt. Roberts should be invited to make a further inspection of the mine. (Hear, hear.)

Mr. GUTTEREZ: If Capt. Roberts is correct in his estimate about the aggregate value of 72/-, I think Capt. Richards has under-estimated what we shall do.

The CHAIRMAN: Capt. Richards is always very cautious in what he does. When we get the mine more down and more in operation Capt. Richards may be able to enlarge his estimate.—Capt. RICHARDS said he always endeavoured in all his estimates to keep well within the mark. (Hear, hear.)

The CHAIRMAN said he could see no objection whatever to Capt. Roberts making a further inspection of the mine.—Capt. ROBERTS: I am not so clever that I can go down such a large mine, with such extensive ramifications, and grasp the whole thing, and deal with it as some do, or pretend to do, at a single visit. (A laugh.) I cannot do it.

Mr. ORLANDO WEBB said that Capt. Roberts had been down without the assistance of Capt. Richards, which made a great difference.—Capt. ROBERTS said that was so; at the same time he was bound to say they had a very good man as assistant underground agent to Capt. Richards.

The report of the agent was then adopted.

The CHAIRMAN said he was sure they were all much obliged to Capt. Roberts for his report. (Hear, hear.) The next matter they had to consider was with respect to a call. Whatever ore they sold would not come forward in time to

realise cash to pay the wages and so on, and, therefore, he thought they could not do with less than a call of 1s. per share.

Mr. HERITAGE moved that a call of 1s. per share be made, payable on or before July 4 next, and that 5 per cent. discount be made on all payments made on or before that date.

Mr. C. B. PARRY seconded the motion, which was put and carried.

The CHAIRMAN said the sett of the mine had been granted to Mr. John Watson on behalf of the company, and Mr. Watson would hold it in trust for the company. There were no onerous covenants in it, but at the same time it was only right that Mr. Watson should, as was usual in such cases, be indemnified by the adventurers in respect to this trusteeship.

Mr. WEBB then moved the usual form of resolution indemnifying Mr. Watson, and holding him harmless in regard to his trusteeship.

Mr. C. B. PARRY seconded the motion, which was put and carried.

On the suggestion of Mr. WEBB, and with the full concurrence of the shareholders, the committee were empowered to consider the desirability of remunerating Capt. Roberts for his report.

On the motion of Mr. RISLEY, seconded by Mr. WEBB, a vote of thanks was passed to the Chairman and committee, and the meeting broke up.

NEW WEST CARADON MINING COMPANY.

The general meeting of adventurers was held at the offices, Gracechurch-street, on Friday, June 17.—Mr. H. L. PHILLIPS in the chair.

Mr. JOHN WATSON (the secretary) read the notice convening the meeting, and the following report of the agent:

In presenting you with the report for the general meeting to be held on the 17th, I may remark that we have now fixed a footway from the SS to surface, and we shall now be enabled to examine all points above this level, and make every preparation for working this ground more effectively when the cross-cut is holed to the winze we have just sunk. I may here notice that this ground cannot be worked to advantage until this is accomplished; we have, therefore, decided on suspending the level now being driven west, and increase the number of men in the cross-cut south as there is not sufficient air to drive both at the same time, and every effort will be made to accomplish this work as early as possible. The lode in the 42, west of Hallett's cross-course, will yield 1 ton of copper ore per fathom. The rise in the back of this level will yield 1½ ton of ore per fathom. The men are making fair progress in the 33 cross-cut, south of Hallett's shaft, driving for 5/- per fathom. In conclusion, I beg to say I see no reason to alter my opinion of this piece of mineral ground, and still believe it deserves a spirited trial and that the shareholders will ultimately be rewarded for their outlay and perseverance.

The CHAIRMAN asked Capt. Richards whether there was anything he wished to add to the report?—Capt. RICHARDS said there was really scarcely anything fresh to report. The ventilation was still bad, and they could not get the stuff to surface, and could do nothing on the lodes at present, until the cross-cut was holed to the winze which had just been driven.

The CHAIRMAN: How many men are there in the cross-cut?—Capt. RICHARDS said there were four, but he intended to put on six. They were giving 5/- per fathom, and the men were earning good wages.

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Mr. SCHOFIELD asked whether the high parcel of ore was selected from bulk?—Capt. RICHARDS said they drove through ground of which he had a good opinion, and a great portion of the rich ore came from that ground. It came from one lode, which did not continue so rich all through.

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Mr. GUTTEREZ: How much will you give us in the next four months?—Capt. RICHARDS: We shall want to discuss that when we come to consider the amount of the call.—The CHAIRMAN: Shall we do as well in the next four months as in the past four?—Capt. RICHARDS: I hope so; there is every probability of it according to present appearances.

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Capt. RICHARDS, in reply to a further question, said the cost for the next four months would be about 900/-, but he hoped they would get better results.

Mr. SCHOFIELD said that in considering the amount of the call they must calculate on wanting 900/- for the next four months.—The CHAIRMAN asked Mr. Watson what amount of call he thought would be required?—Mr. WATSON said he thought a call of 1s. per share would be ample.—The CHAIRMAN: I agree that a 1s. call will be ample. If we are, as I believe we are, in a good enterprise it would be bad policy to cripple the thing for the want of 3d. or 6d. per share. (Hear, hear.)

Capt. JOHN ROBERTS said that at his recent visit to the mine, a few days previously, he had inspected the workings, and made notes underground. He was informed that the mine had considerably improved since Capt. Richards was there. The following was a brief report of what he had seen and noted:

June 17.—Agreeable to the request with which you have favoured me, I write the following report from my notes made yesterday and the day before whilst inspecting this mine. At the 50, west of Hallett's cross-cut, on Vivian's north lode, there is a rise by four men, where the lode is worth 12/- per fathom. Below this level the lode is not cut or seen anywhere in the mine; and as this ore is a continuation of the course of ore at the 33, it will, no doubt, continue down as other courses of ore in the mine have done. In the bottom of the 33 this same course of ore is worth, in the eastern end of the winze, 10/- per fathom, and it appears to be just of the same value for some distance away from the winze. The rise is about 3 or 4 fms., to the east of the winze, where there are six men working on a lode, worth from 20/- to 25/- per fathom, and the ore requires but little dressing. This same level is driven for a great distance, I should say 60 fms., on the course of the lode, without having a single rise or winze to prove the lode. Passing through this level I observed in different places where there have been blasts put into the lode, good strong patches of ore which would, no doubt, improve if they were tried further. At the back of the 33, on Vivian's north lode, there are two stoves just commenced; the first is worth 5/- per fathom, and said to be improving. The second is higher up the roof, and the better one. When I was there a hole was bored over 2½ ft. deep in solid copper ore, and although little was to be seen, it laid open one leader of ore 8 in. wide, and another 6 in. wide, with still more standing in the footwall. We may safely value it at 12/- per fathom. On Gilpin's lode at the adit level there is a sump which is being sunk by four men. The lode is about 6 to 8 in. wide containing good strong patches of copper ore, worth 3/- per fathom. The roof over I could not examine; but I was told that it is much richer. There is on this lode a great deal of ground yet unexplored, and offers a good chance for opening out a good mine in itself. Considering the short time that you have been working, it must be considered that you have achieved a great success. The different points you have in operation are worth, in the aggregate, 62/- per fathom, and if the mine continues to improve as it has done for a short time it will be worth double that amount.—JOHN ROBERTS, M.E., M.M.S.

Looking at the mine altogether he considered that the shareholders had a splendid property; and he had no hesitation in saying that if the mine had been worked as it ought to have been by the former workers it would have been working incessantly to

Mr. Field's second 100 tons of arsenic in latter part of next week. The breakage in the stamps wheel hindered us in our returns of tin for several weeks, but by continuing our stamping some four weeks longer we can get about 8 tons ready still. The masons are exceedingly busy building stands for water-wheel, bobbin, holdback, bob, &c. These will take us four or five weeks to complete. In the meantime we are making enquiries concerning the refining works. Seeing that we are now in good working order at the mine do you think it will be advisable for me to send a monthly report to the *Mining Journal* in future? If so please let me know.

DEVON GREAT CONSOLS.—Isaac Richards, June 23: Wheal Josiah: In the 144, east of the Court House shaft, on the new south lode, the lode is 3 ft. wide, composed of capel, quartz, and small quantities of copper and mundic ores.—Wheal Emma: Inclined Shaft: At the 130 east the north part of the new south lode has been cut into 3 ft., and so far as seen it presents a very promising appearance, being composed of capel, quartz, peach, mundic, and some good quality copper ore. In the 137, east of Friend's cross-cut, the lode continues large, from 3 to 6 ft. wide, of a very promising character, producing some saving work of copper and mundic ores.—New Shaft, New South Lode: In the 205, west on the north part of the lode, the lode is 4 ft. wide, composed of capel, quartz, peach, and some good stones of copper ore and mundic worth 2 tons per fathom. In the 115 east the lode is 2 ft. wide, composed of capel, quartz, peach, and some copper and mundic ores. In the 109 fm, level east the lode is 1½ ft. wide, composed of capel, containing a little of both copper and mundic ores. In the 90 fathom level east the lode is 2 ft. wide, of a promising appearance, and producing some copper and mundic ores.—Railway Shaft: In the Railway shaft, now down about 14½ fms, below the 130, the ground continues favourable for progress and congenial for mineral. In the 190 west, on the north part of the lode, the lode is 3½ ft. wide, of a promising character, and producing good stones of copper and mundic ores. In the 175 west, on the south part of the lode, the lode is 4 ft. wide, containing some good copper and mundic ores, and its general character is of a very promising nature. In the 160 west, on the south side of the lode, the lode is 1½ ft. wide, composed of capel, quartz, with small quantities of copper and mundic ores. In Rich's winze in the bottom of the 160, west on the south part of the lode, the lode continues of good size, from 4 to 5 ft. wide, and worth 5 tons of copper ore and 3 tons of mundic per fathom.—Watson's: In the engine-shaft, sinking below the 75, now down 8 fms, 4 ft., tolerably favourable progress is being made, and the ground continues congenial for mineral.

DEVON GREAT UNITED.—I. Richards, June 23: I am pleased to inform you that the Plunger lift at the 93 in Willesford's shaft has been fixed and set to work, and the water has been drained to the bottom, or 104 fathoms level. The men will now get on as fast as possible with laying skip-road, casing and dividing the shaft, and putting in good and permanent footway to the bottom of the mine. In the 60 west of Willesford's shaft, on the Capel Tor lode, the lode is 2 ft. wide, composed of capel, quartz, peach, and spar, producing good stones of tin; this lode is embedded in a beautiful channel of virgin ground—in fact, the general character of this lode, in my opinion, is sufficient to warrant the most sanguine expectations.

We are pushing on with clearing away ground for the engine-house, stamps, &c., as fast as possible, and the contractors have commenced hauling the machine on the mine.

GREAT WEST CHIVERTON.—J. Curtis, June 22: We are making good progress in sinking the engine-shaft below the deep adit; lode 3 ft. wide, with spots of lead in it, and looking kindly for the depth.

GREAT WHEAL POLGOOTH.—John Ridd, June 23: We are making good progress with the lead, having opened it for nearly half a mile in length, and the level or tunnel to take the water from this lead will be completed in about a fortnight's time. This will give us a fall of about 60 ft. of 2000 cubic feet of water, per minute. The value of this as motive power cannot be too highly estimated as it will not only be saving in the cost of coals and grease, but also the labour cost of two engine-men at least. The engine-shaft l. h. is clear about 10 fms below the 130. We have ordered pumps, &c., which we hope to have on th. in a week or so, when we shall begin to fit the pumping gear.

GREEN HURTH.—Wm. Vipond, June 17: In the end of the opening level south from Swan shaft we have no ore to value yet. The sole and root of the standge level north continues to yield about 5 tons of ore per fathom. The stope south from rise over the 30 is yielding 1½ ton of ore per fathom. Stope No. 1 over the 30, going to Vipond's sump, is yielding 1 ton of ore per fathom; this stope has got into a little poorer ground just at present. Stope No. 2 is yielding 2½ tons of ore per fathom. The stope in the sole of the 30 going north is yielding 4 tons of ore per fathom. The stope above the 30 going on to Robinson sump continues to yield 12 cwt.s of ore per fathom. There is no change yet in the cross-cut south from adit level. Outside work is progressing satisfactorily.

EAST BLUE HILLS.—S. Bennetts, June 23: The adit level is being cleared up as fast as the staff can be got away. At the 30 the end breast of ground has been reached; about 10 ft. above this level, however, the lode is taken away still further ahead. In the whole ground thus found the lode is 2 to 2½ ft. wide, of a most promising appearance, and although the old workers naturally took away all the best tin ground they could get at, yet the lode now found standing and laid open will most of it pay to take away, and worth 7c. per fathom. So far as can be at present ascertained, the good tin ground laid open, and from which those old tributaries were prevented from working by means of the falling in of the side, is some 10 fms. ahead of the most easterly point yet cleared at the 25, and this point we hope to reach in the course of another fortnight should no unforeseen obstacle be in the meantime encountered.

EAST BOTALLACK.—Geo. H. Eustice, John Hollow, June 22: The sinking of the engine-shaft progresses satisfactorily, the men having sunk nearly 6 fms. since the commencement of their contract. The lode in the shaft is increasing in size and is of a more kindly nature for the production of tin. We have commenced clearing up a shaft on the south lode, adjoining the Balleswiden Mine, now down about 4 fms. Nothing has been done in this part of the mine for at least the past 50 years, but judging from the extensive workings on the back of the lode we should think it must be of a very promising nature.

EAST CHIVERTON.—R. Soutby, June 23: The lode in the 90 end, west of the engine-shaft, is equally as good as when I reported last week, and judging by its nature to-day I am of opinion it will further improve as we extend the end of the level towards West Chiverton.

EAST HERODSFoot.—T. H. Bennett, June 23: We continue to make good progress with the cross-cut adit towards Bewes lode, and every effort is being made to get forward to the intersection with all disparte. We are passing through a very genial stratification for the production of silver-lead ore, and are hopeful of good results on reaching the lode.

EAST LONG RAKE.—N. B. Vercoe, June 22: The lode in the 50 east continues about 3 ft. wide, of clay, lime-spar, and lumps of lead; an exceedingly promising lode, and likely to improve. The rise in the roof of the 50 east produces saving stuff for the dressing-floors. The lode in the 50 west is 2½ ft. wide, producing rich leadstuff, and opening profitable ground for stopes. The last 2 fms. driven in this end has been through a good lode of lead. The masons are building boiler flues, and engineers fixing machinery. All being well I hope to get the engine to work in about three weeks, say by Satu. lay, July 16, and I hope to have the pleasure of seeing the directors down, and I am sure they will be satisfied that they have a great and valuable property.

EAST ROMAN GRAVELS.—A. Waters, June 23: There is no material change to notice here since last report. A full account in detail of the various points in the mine will be in your hands on the 27th inst. as requested. We have to-day sampled 40 tons of lead ore, for sale next week.

EAST WHEAL CEBROR.—G. Rowe, June 22: The south lode in the 70, west of engine-shaft, is without change in character since last reported, being about 18 in. wide, producing arsenical mundic, with occasional stones of ore. The north lode in the 70, west of cross-cut, is improving in character, with arsenical mundic and stones of good quality copper ore. The lode in the stope below the 60 is worth 8c. per fathom. We are exceedingly busy in preparing for our next sampling, which we calculate will be about 60 tons of copper ore.

EAST UNY.—H. Eddy, James K. Harvey, June 21: Since commencing operations here at Christmas last we have forked the mine from the 30 to the 82, which is the bottom level; and, although during a very severe winter we had a large quantity of water to deal with, we have put the mine, pitwork, machinery, &c., in a good state of repair, and are now in a position to develop the mine with energy. In the 30 and 55 east of shaft, we found a cross-cut driven south from Davis's lode 23 fms. After driving it about 8 fms. further we cut the copper lode—formerly worked on in the 40; this lode is 1½ ft. wide, producing stamping work for tin, and some good stones of tin. In addition to rich stones of copper ore. We have driven on it 2 fms. east and 7 fms. west, the lode in the western end looking exceptionally promising. We have also driven the cross-cut 8 fms. beyond this lode, and shall cut another lode in 15 fms. further driving. The 82 west was driven on Davis's lode 27 fms., from which point we took it up. On starting it contained a small leader of good copper ore, which has kept improving every fathom, and is now 1 ft. wide, consisting of good work. In addition to this, we cross-cut the lode north, and found another rich leader of copper 1 ft. wide, and only 3 ft. from the first. North of this the lode is all stamping work for tin, being altogether 12 ft. wide. From the appearance of the stuff when broken it is very evident that we are near the junction with the great flat tin lode. By sinking the engine-shaft 12 fms. deeper this important junction of Davis's lode and the great flat tin lode would be met with, and as similar junctions with the great flat tin lode in the rich tin mines to the west of us have never failed to prove highly productive, we have every reason to believe that equally successful results will be met with here.

GAWTON COPPER.—George Rowe, George Rowe, jun., June 18: The lode in the 117 east is 6 ft. wide, producing very strong arsenical mundic, with good stones of ore. The lode in the stope in the back of the 117 is worth 10c. per fm. No. 2 stope in the back of the same level (117) is worth 12c. per fathom. The lode in the 105 east is improving; worth 10c. per fathom. The lode in the stope in the bottom of the 105, east of cross-cut, is worth 8c. per fathom. The lode in the 95 east is yielding very strong arsenical mundic, with good stones of ore. The lode in the 72, east of cross-cut, is producing 6 tons of mundic per fathom. All other points in operation are progressing so fast as the nature of the works will admit.

GLASGOW CARADON.—William Taylor, Wm. J. Taylor, June 21: The shaftmen have hardly finished their bargain taking out penthouse and fixing skip-road from the 102 to the 114, but will do so in a few days. We shall then be in a position to open on the branch we cut in the bottom of the shaft which turned out some good ore. There is not much change in the ground in the 114 cross-cut, and no change to notice in the 102 south; ground continues hard. East from the winze in the bottom of the 90 the lode is worth 6c. per fathom. The stopes and pitches throughout the mine vary in value from 6c. to 10c. per fathom. The new boiler to the whim and crusher is fixed and will be ready in a few days. We shall then push the dressing for next sampling as fast as possible.

GLENROY.—R. Rowe, June 21: I have just come from underground. We are now forking the water under the 103, and by Friday shall be clear and the men at work in the bottom. We have broken some good stuff for lead and blonde from the roof of the 25, but to-day it is not looking so well. The lode, however, is very changeable, scarcely two days alike. This piece of ground is just immediately above where the lode was so productive at and below the 25.

GODDARD'S LEAD.—H. H. Vivian, June 23: During the past few days the men have been employed raising the water-course 2 ft., this work is now complete, and the power of the wheel is greatly increased for pumping. Very little has been done to the stoping during the week in consequence of the men being employed as stated above; now the stoping will be continued and proving the lode eastward.

GOODEVERE.—R. Knot, June 22: I am pleased to say the lode in the shaft is improving as we continue to sink in the west end of shaft; it is fully 4 feet wide, producing rich work for tin, with every appearance of still further improvement. The ground in the deep adit cross-cut continues favourable, and good progress is being made. The surface work is progressing satisfactorily.

GORSEDD AND MERLYNN.—W. Edwards, June 23: The 70 east lode still keeps hard, but more lead is coming in the stones; the vein looks more favourable than it has done for some time; the men have driven 1 yard 2 feet since last report. In the 70 west level the south driving at the top of the rise is looking more promising; lead keeps about the same as last reported. I have a very high opinion of this level, and expect it will turn out well this month. The lode is worth for lead 20 cwt.s per fathom; 3½ yards have been driven during the fortnight. The 90 west level is progressing very satisfactorily; there is more shale owing between the beds, which are getting darker, and very much like those underneath the 50 level above; more lead, blonde, and spar is coming in the vein, also small partings from the heading, which I like to see very much, as it always makes a vein stronger—the lode is worth 15 cwt.s. of lead per fm. and the men have driven 2 yards. Tributes: Two men in No. 1 pitch in roof of the 70 east level; the lode is worth 15 cwt.s. per fathom. Two men in No. 2 pitch; worth 20 cwt.s. per fathom. Two men in No. 3 pitch; worth 15 cwt.s. per fathom. There were 10 tons of lead weighed out-to-day, realising 105c. 15s.

GREAT HOLWAY.—W. T. Harris, June 23: Roskell's Shaft: The 110 cross-cut south continues to make fair progress; branches of spar are more frequent, and an increase of water issues from the forebreast. I purpose starting on Monday to drive east and west to meet the runs of ore gone down from the levels afores, also in a short time to further extend the cross-cut, as the indications are strongly in favour of more valuable discoveries in this direction. In

the 80 west the character of the lode is much improved, and is producing fairly of blonde, slightly impregnated with lead ore; water also issues freely from the end, which promises further improvement.—Brammock Shaft: The pitch in the bottom of the 40 east is producing 1½ ton of lead and 1½ ton of blonde per fathom. The pitch at this level, on the north lode, is worth 2 tons of blonde per fathom. The pitch in the back of the 60 is worth 12 cwt.s. of lead and 1 ton of blonde per fathom, and very promising for an improvement.—Office Shaft: The pitch in the bottom of the 60 west is worth 10 cwt.s. of lead and 1 ton of blonde per fathom, and the pitch in the back 8 cwt.s. of lead and 1 ton of blonde per fathom.—Level Engine: The lode in the 60 east is worth 1½ ton of lead and 1 ton of blonde per fathom. The lode in the rise in the back of this level is producing 1½ ton of lead ore and 1 ton of blonde per fathom, and evidently entering the great run of ore now being worked upon on No. 3 pitch, where the lode is worth 5 tons of lead per fathom. No. 1 pitch, in the back of this level, is producing 2½ tons of lead ore per fathom; ground becoming stronger in going west. No other change in the underground department. Surface work progressing with the usual regularity. Yesterday we sold 20 tons of lead ore, at 11s. per ton, and to-day sent out samples for the sale of 30 tons of blonde on July 1, and again next week we shall sample another parcel of lead ore. Progress is now good on the dressing-floors.

GREAT POLGOOTH.—Wm. Richards, June 22: Wheal Josiah: In the 144, east of the Court House shaft, on the new south lode, the lode is 3 ft. wide, composed of capel, quartz, and small quantities of copper and mundic ores.—Wheal Emma: Inclined Shaft: At the 130 east the north part of the new south lode has been cut into 3 ft., and so far as seen it presents a very promising appearance, being composed of capel, quartz, peach, mundic, and some good quality copper ore. In the 137, east of Friend's cross-cut, the lode continues large, from 3 to 6 ft. wide, of a very promising character, producing some saving work of copper and mundic ores.—Railway Shaft: In the Railway shaft, now down about 14½ fms, below the 130, the ground continues favourable for progress and congenial for mineral. In the 190 west, on the north part of the lode, the lode is 3½ ft. wide, of a promising character, and producing good stones of copper and mundic ores. In the 175 west, on the south part of the lode, the lode is 4 ft. wide, containing some good copper and mundic ores, and its general character is of a very promising nature. In the 160 west, on the south side of the lode, the lode is 1½ ft. wide, composed of capel, quartz, with small quantities of copper and mundic ores. In Rich's winze in the bottom of the 160, west on the south part of the lode, the lode continues of good size, from 4 to 5 ft. wide, and worth 5 tons of copper ore and 3 tons of mundic per fathom.—Watson's: In the engine-shaft, sinking below the 75, now down 8 fms, 4 ft., tolerably favourable progress is being made, and the ground continues congenial for mineral.

DEVON GREAT UNITED.—I. Richards, June 23: I am pleased to inform you that the Plunger lift at the 93 in Willesford's shaft has been fixed and set to work, and the water has been drained to the bottom, or 104 fathoms level. The men will now get on as fast as possible with laying skip-road, casing and dividing the shaft, and putting in good and permanent footway to the bottom of the mine. In the 60 west of Willesford's shaft, on the Capel Tor lode, the lode is 2 ft. wide, composed of capel, quartz, peach, and spar, producing good stones of tin; this lode is embedded in a beautiful channel of virgin ground—in fact, the general character of this lode, in my opinion, is sufficient to warrant the most sanguine expectations.

In Rich's winze in the bottom of the 160, west on the south part of the lode, the lode continues of good size, from 4 to 5 ft. wide, and worth 5 tons of copper ore and 3 tons of mundic per fathom.—Watson's: In the engine-shaft, sinking below the 75, now down 8 fms, 4 ft., tolerably favourable progress is being made, and the ground continues congenial for mineral.

GREAT WEST CHIVERTON.—J. Curtis, June 22: We are making good progress in sinking the engine-shaft below the deep adit; lode 3 ft. wide, with spots of lead in it, and looking kindly for the depth.

GREAT WHEAL POLGOOTH.—John Ridd, June 23: We are making good progress with the lead, having opened it for nearly half a mile in length, and the level or tunnel to take the water from this lead will be completed in about a fortnight's time. This will give us a fall of about 60 ft. of 2000 cubic feet of water, per minute. The value of this as motive power cannot be too highly estimated as it will not only be saving in the cost of coals and grease, but also the labour cost of two engine-men at least. The engine-shaft l. h. is clear about 10 fms below the 130. We have ordered pumps, &c., which we hope to have on th. in a week or so, when we shall begin to fit the pumping gear.

GREEN HURTH.—Wm. Vipond, June 17: In the end of the opening level south from Swan shaft we have no ore to value yet. The sole and root of the standge level north continues to yield about 5 tons of ore per fathom. The stope south from rise over the 30 is yielding 1½ ton of ore per fathom. Stope No. 1 over the 30, going to Vipond's sump, is yielding 1 ton of ore per fathom; this stope has got into a little poorer ground just at present. Stope No. 2 is yielding 2½ tons of ore per fathom. The stope in the sole of the 30 going north is yielding 4 tons of ore per fathom. The stope above the 30 going on to Robinson sump continues to yield 12 cwt.s. of ore per fathom. There is no change yet in the cross-cut south from adit level. Outside work is progressing satisfactorily.

HINGSTON DOWN.—Thomas Richards, June 22: No. 1 lode in the deep adit east of the south cross-cut contains capel, quartz, arsenical mundic, &c., and occasional good stones of copper ore, and it is in its general character altogether of a very promising nature. No. 2 lode in the deep adit level east of the south cross-cut continues without any material change. Very good progress is being made with fixing the pitwork, &c., and no time shall be lost in completing the same that the sinking of the engine-shaft may be resumed below the 12 with as little delay as possible.

KIRK MICHAEL.—R. Rowe, June 22: I find the shaft to-day is down 2 fms. below the 20 fm. level. On Friday last the lode widened, and improved for lead; and to-day we have come down on a flat floor of ground, and the lode is again disordered. In the 20 south we are still in silty and confused ground, through which the lode is making its way with a little lead but of no value. In the 20, driving north, the lode is about 1 foot wide, and worth 15 cwt.s. of lead per fathom.

KIT HILL GREAT CONSOLS.—Isaac Richards, June 23: I advised you in my last report that in prosecuting our explorations on the lode in the quarry going eastward we came upon some old men's workings. We have since made further trial by sinking, and have gone down on the coarse of the north part of the lode some 5 ft., and I am pleased to inform you that it maintains its size, from 3 to 4 ft. wide, and its character is of the finest description, being composed of capel, quartz, gossan, prian, and some excellent tin ore. A more promising lode can scarcely be found. The rather stormy weather we have been getting during the past week has somewhat interfered with our surface operations, but on the whole we are getting on fairly well.

LADY WELL.—A. Waters, June 23: We have now driven the adit cross-cut east, and bored a deep hole beyond the end far enough to be satisfied that hitherto we have followed the main lode south of the cross-course. We intend, therefore, to reserve the in the level southwards towards the shaft forthwith.

LADY BERTHA UNITED.—Thomas Neill, June 21: Since my last report I am pleased to state we have made satisfactory progress in the clearing of the new shaft and laying down the tramroad in the different levels. The stopes throughout the mine are looking exceedingly well, and yielding an abundant supply of arsenical mundic and copper ore which is of a high percentage, having large quantities broken under ground, and a parcel of mundic and copper dressed at surface ready for sampling. We have forked the water to the bottom of the mine, but the levels are choked with slime, &c., therefore we have not been able to report on the nature of the lodes. We shall commence immediately with the dearing of the same, and hope to be able to send a full report next week. The machinery is working well.

LEAD ERA.—J.

stope, in back of this level, by four men, at 5d. per fm.; worth 15d. per fm. To drive the 100 west on the north part of the lode, by four men, at 7d. per fm.; worth for the part carried, 6 ft., 15d. per fathom. To stop the back of this level by four men, at 3d. 15s. per fm.; the lode is worth 12d. per fm. To drive the 80 west on the north part of the lode, by two men, at 4d. per fm.; this end is in granite. The 60 to drive west of West's shaft, by four men, at 9d. per fm.; worth 10d. per fathom. The 50 to drive west of West's shaft, by two men, at 4d. 15s. per fm.; this end is now in the cross-course. To stop the back of the 40, east of West's shaft, by six men, at 5d. per fm.; worth 20d. per fm. The 30 to drive west of old sump-shaft, by four men, at 10d. per fm.; worth for the part carried, 6 ft., 12d. per fm. No. 1 stope, in back of this level, by six men, at 3d. 15s. per fm.; worth 25d. per fm. No. 2 stope, in back of this level, by four men, at 6d. per fm.; worth 20d. per fm. The 20 to drive west of old sump-shaft, by four men, at 11d. per fathom; the end is producing a little tin, but not sufficient to value.—Western Mine: New Engine-Shaft: The 112 to drive west by four men, at 20d. per fm.; worth 5d. per fm. The 112 to drive east by two men, at 3d. 10s. per fm.; the lode is unproductive. To stop the back of the 110 east by two men, at 3s. per ton; worth 10d. per fm. The 50 to drive west by four men, at 16d. per fm.; worth for the part carried, 6 ft., 8d. per fm. No. 1 stope, in back of this level, by four men, at 3d. per fm.; worth 15d. per cubic fm. No. 2 stope, in back of this level, by four men, at 3d. 15s. per fm.; worth 9d. per fm. The 40 to drive west by four men, at 17d. per fm.; worth for the part carried, 6 ft., 30d. per fm. To rise in back of this level by four men, at 14d. per fm.; the lode is worth 6d. per fm. The 20 to drive west by four men, at 5d. per fm.; this end is in granite. The 60 to drive east of Stow's shaft, by four men, at 15d. per fm.; the lode is worth 5d. per fm. We set on Saturday 13 tribute pitches, at tributes varying from 5s. 6d. to 13s. 4d. in 12. for tin and copper.

PIONEER.—The mine captain reports:—Silver-lead Mine Holywell: Engine-shaft: We have drained the water and cleared up the debris 6 yards below the 60, and find the shaft in fair repair; this has drained the water from the sumps, and all being well I hope to have them cleaned up, and begin raising lead in a few days. The 60 yard level south has been cleared to the end; the air is very bad, and we shall have to fix air pipes in the level; in the meantime I have placed the men to rise in the roof of the 60 east on Panty-Pyewell lode, where there are fine patches of lead, and likely to improve.—Blackwell Shaft: The 100 yards cross-cut has been driven north from shaft 16 yards; the ground is looking more promising to-day than at any previous time, and I should not be surprised to strike into lead any day.—Bessies Shaft: We have been hindered here this last day or two from working on the head, having had a crush in the old lode at the 50; the old timber having broken down it will take us until the end of this week to put it right, after which time we shall go on working on the lead regularly. We have a fine heap of lead stuff on the surface, and shall proceed to make arrangements for dressing at once. New shaft going down well, and still in timber ground. All other work proceeding with usual regularity.—Copper and Lead Mine Harlech: The new sump on lead lode has been sunk about 3 yards below the deep adit level in a fine strong and promising lode fully 1 yard wide of clay, soft spar, sulphur, &c. I am confident that this lode will become very productive in depth. The deep adit cross cut towards new copper lode has been driven east during the past week about 5 ft. in the usual kind of rock a firm compact clay slate. No other change to report.

PORT NIGEL.—Joel Manley, June 23: The 80 east was driven last month 6 fms. 0 ft. 6 in.; re-set to eight men, at 4d. 7s. 6d. per fathom; the lode is about 4 ft. wide, yielding occasional stones of lead ore. No. 1 stope in the back of the 80 is set to six men, at 3d. per fathom; the lode is from 10 to 12 ft. wide, worth 30 cts. of lead ore per fathom. No. 2 stope in back of ditto is set to three men, at 2d. 6s. per fm.; worth 18 cts. of lead ore per fm. No. 3 stope, to three men, at 2d. per fathom; worth 15 cts. of lead ore per fathom. The 68 was driven last month 3 fms. 4 ft.; re-set to four men, at 3d. 12s. 6d. per fm.; the part of the lode carried (about 4 ft.) gives indications of an early improvement, the lode being harder, and more compact. No. 1 stope in this level is set to two men, at 2d. per fathom; worth 20 cts. of lead ore per fathom. The tribute pitches are not yet taken. We shall send out samples of 50 tons of lead ore to market. A series of small breakages to our crusher have greatly impeded our progress in preparing this parcel.

PRINCE OF WALES.—S. Roberts, G. Rowe, June 22: The shaftmen are going on as usual with the sinking of Watson's engine-shaft. In the 90 end east the men are driving by the side of the lode, which has not been taken down for the last 10 ft.; consequently we have no change to report. In the rise in the back of this end the men are rising in the kilns and leaving the lode standing in the footwall, which looks well, and will be taken down in the earliest convenience. In the 90 west the lode is not quite so large as last week, but has a more kindly appearance, and about the same in value. All other points without change to notice.

ROMAN GRAVELS.—A. Waters and Son, June 23: The 125 north and south of new engine-shaft are without change since last reported on. The 110 north of old shaft is worth 2½ tons per fathom. The 110 south of new shaft is worth 3 tons per fathom. The 95 south of said shaft is worth 2½ tons per fathom. The winze below the 80, going down about 14 fms. south of 95 end, is worth 4 tons per fathom. The 65 south on east part is worth 6 to 7 tons per fathom. The 65 south of No. 2 cross-cut on great spar lode is worth 2½ tons per fathom. The 50 south is worth 3 tons per fathom. The winze below the 40 is deep enough for the 50, and we hope to get the latter forenoon south to the hoisting point next week. Steepes throughout the mine are yielding ore as for a long time past.

SILVER HILL.—George Rickard, June 22: Since writing you on Monday last the driving of the tunnel has been kept going night and day with the new boring machinery, which consists of Hathorn and Co.'s Alliance air compressor, and the Eclipse drilling machine, with hydraulic column or tightening bars, all of which are on the most approved principles. We have extended the tunnel north within the last eight days 6 fms. 1 ft. The ground still continues of a favourable nature for driving, it being very much the same in character as that we have already passed through for the last several fathoms. I went over yesterday in the valley at the eastern limits of the sett, to find out if it is about 57 fms., and if these lodes are running parallel with each other we have about 10 fms. more to drive before intersecting the blonde lode. I examined some of the lode stuff which is laying about on the old burrows just outside the boundary line of this property, and consider it to be of a very encouraging character, consisting of peach, friable quartz, blonde, and mungie, intermixed with silver-lead and copper ore of good quality. These indications add greatly to strengthen the good opinion that I have always entertained of this extensive mining property for the last 20 years. The surface erections, with other work, are in a forward state towards completion.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. King, June 22: The lode in the 42, west of Marshall's shaft, is worth fully 10d. per fathom, and the ground easy for driving. The 59, east of King's, is worth 10d. per fathom. The stope in the back of this level is worth 12d. per fathom. The 60 east is improving, and is now worth 10d. per fathom. The back of the 60, west of Plantation shaft, is worth 20d. per fathom. We are making fair progress in driving the 70 end, east of King's, is worth 8d. per fathom. The 50 end east yields low-quality tintstone. The rise in the back of this level is worth 12d. per fathom. The 80, east of Plantation, is worth 12d. per fathom. The 93 end, east of King's, yields a little tin and native copper.

SOUTH DARREN.—Henry James, June 23: We are now in course of sinking to the 130. In the 110 east the lode is issuing a strong feed of water, and improved in width and value; now 8 ft. wide, and worth 2½ tons of lead ore and 2 tons of copper ore per fathom. The other ends stope, &c., throughout the mine are much the same as reported last week. Drawing and dressing progressing regularly.

SOUTH DEVON UNITED.—Wm. Hooper, June 24: I beg to hand you the following setting report:—The 110, east of Brook's engine-shaft, has been driven during the past month 3 fms. 2 ft.; set to six men, at 9d. per fathom. The lode is 5 ft. wide, containing spar, mungie, and copper ore, with a value of 28d. per fathom; from the appearance of this end we have every reason to expect to lay open large quantities of copper ore as this end is being driven east—in fact, it has been already driven through a good lode for many fathoms in length. No. 1 stope, in the back of this level, is set to two men, at 2d. 15s. per fathom; the lode is 2 ft. wide, with a value of 9d. per fathom. No. 2 ditto, set to two men, at 2d. 15s. per fathom; the lode is 2 ft. wide, with a value of 10d. per fathom. The 110, east of Brook's engine-shaft, has been driven during the past month 2 fms. 4 ft. 8 in.; set to four men, at 7d. 10s. per fathom. The lode is 4 ft. wide, composed of capel, spar, and good stones of copper ore, with every prospect of a good improvement; the lode has two straight beautiful walls, and the ground about it is of the finest description for producing copper ore, being a light killas such as all the large deposits has been found in this mine. When this end is driven east under the new or Martin's shaft I would strongly recommend a rise being put up in the back of this level against it; the same should be done in the back of the 90. This would greatly facilitate the completion of this most important piece of work to the 100. The stope in the back of this level is set to four men, at 4d. 10s. per fathom; the lode is 5 ft. wide, with a value of 12d. per fathom. The 90, east of Brook's engine-shaft, has been driven during the past month 4 fms. 5 in.; set to two men, at 8d. 10s. per fathom. The lode is 5 ft. wide, with a value of 10d. per fathom. The trammings of all the stuff to Brook's engine-shaft, by six men, at 24d. per month, to pay all costs. We have commenced to drive the adit level west in the Wheal Emma section of this property, where the lode is 4 ft. wide, composed principally of gossan and capel, with spots of copper ore—a very promising-looking lode for the depth; the debris from here we shall hand through, and adit shaft a few fathoms east of the end. We are also putting a ladder-road in this shaft for a more easy access to this place. The adit to the east of this shaft is very small to put in repair; for a tramroad would cost a good sum of money, as it has been driven a long distance from the Emma old engine-shaft.—Surface: Martin's shaft is now down 14 fms. 3 ft. The men have been engaged during the past day or so putting in timber, &c., and securing the above. I am pleased to say during the past week we have had an increase of water, which has enabled us to work three more diggers.

SOUTH PENSTRUTHAL.—Stephen Davey, June 23: The works generally throughout the mine are progressing satisfactorily, and the water forked to the 60 fm. level.

SOUTH WHEAL CREBOR.—J. Goldsworthy, June 22: The dividing and casing the shaft is progressing satisfactorily. The afternoon and night men are making good progress in opening the side of the shaft before the cross-cut is commenced towards the lode. The ground is highly charged with mineral.

The ground to the side of the lode is without change.

TAMAR.—R. Goldsworthy, June 23: Saturday last being setting and pay,

when the following bargains were let: To drive the 57 south, by four men, at 6d. 10s. per fathom; lode 3 ft. wide, at present disordered by a small slide, but this we think is only temporary. To sink the winze in the bottom of the 37 south, by six men, at 10d. 10s. per fathom; lode 3 ft. 8 in. wide, producing 4 cts. of silver-lead per fathom, and from its promising appearance we expect a further improvement as depth is attained. To drive the 27 cross-cut south, by four men, at 9d. per fathom; the ground is of the same congenital character in the joints; we find traces of mungie, iron, and spots of lead, which leads

us to think we must be near a branch or lode. To drive the 27 south, by six men, at 9d. 10s. per fathom; lode about 5 ft. wide, composed of quartz, congenial capel, spathose, iron, and stones of silver-lead; a fine-looking lode, where we are daily expecting a good discovery.

TANKERVILLE GREAT CONSOLS.—A. Waters and Son, June 23: Tankerville Mine—North Lode: The 220 going west of Watson's engine-shaft is in a lode 2½ ft. wide, nice-looking spar and lead ore worth 1 ton per fathom. The end is now driven from the cross-cut 4½ fms. The 220 east of cross-cut is driven 4 fms.; lode 4½ ft. wide, worth ¾ ton per fathom.—Main Lode: The three stoves in back of 220 west are worth together 3½ tons lead ore per fathom. The two stoves in same level, east of shaft, are worth 2½ tons per fathom. The stope in 206 west is worth 12 cts. per fathom. The rise in said level on Roberts' lode is worth 1½ ton per fathom. The 206 cross-cut going north of Watson's towards No. 1 north lode makes good progress, and it is expected to reach the object in 6 ft. 6 ft. further driving. The 182 west of long cross-cut on old lode is yielding good stones of lead ore. The stope in back of the 100, east of Watson's on north lode, is worth 1½ ton per fathom. The 74 east of junction on south lode is worth 1 ton per fathom. The 74 driving south-westerly on branch out of the above lode is worth 12 cts. per fathom. The stope in 62 level east on south lode is worth 1½ ton per fathom. The Tribune department without change worthy of notice for the last week or two.—Pennerley Mine: The water here is now 5 fms. below the 80, and, all being well, we shall soon get to the bottom of the mine.—Bog Mine: The water is drained 5 fms. 4 ft. below the 50, and at present we shall not be long getting to the 60. We have cleared and secured the 32 fm. level 81 fms. east and 61 fms. west of Banting's shaft, and started to clear and secure the 50 east and west this afternoon. We are pushing on surface work with a view to dressing operations, &c., as fast as possible.

TAVISTOCK GREAT CONSOLS.—H. Treganowan, June 21: The men are still driving west on the course of the Bir Hill lode. The end is driven 3 fms. west of the cross-course. I am very pleased to inform you that the lode is of a very satisfactory character, being composed of very beautiful quartz, peach, and mungie, and is also producing tin throughout. I have assayed a stone from the end to-day. It produced 89 lbs. of tin to the ton of stuff. I have no doubt whatever that this lode will improve in depth, and also as we approach the Bir Hill Old Mine, where they had large and rich deposits of tin.

TIN HILL.—George H. Eustace, John Holloway, June 22: The operations throughout the mine are being pushed on with all speed. The view of getting the engine to work as quickly as possible. The erection of the engine itself is in a very forward state, all the heavy and principal parts being fixed in position. Next week we shall give you a detailed report, and hope to be able to fix a time for starting the engine.

TREVINCE CONSOLS.—John Mayne, June 23: The points in operation are much the same as reported last week, with the exception of an important change in the character of the ground in the cross-cut, which shows every indication that the lode cannot be far off; and, judging from the character of the ground, it is to be regretted that the ground being so hard we cannot explore the lode more expeditiously at the present depth. The 70 west was driven 4 fms. 1 ft. 5 in.; the lode is now 15 in. wide, carrying a branch of blend, with spots of lead ore. The intermediate level, east of footway rise, under the 40, has been further extended 2 fms., and will yield 1 ton of lead ore per fathom. The stope west of this point, now yields about 12 cts. of lead ore per fathom. We have re-set five tribute pitches to ten men and three boys, one at 3d. 10s. per ton, and four at 8d. per ton, of dressed lead ore. On June 13 we sold 20 tons of lead ore, this being three weeks in advance of the usual date of sale. We hope to have 50 tons of blend ready to sample in two or three weeks.

WEST ASSHETON.—Joseph Garland, June 22: During the month ending on Saturday last the 92, west of the boundary shaft, was extended 3 fms. 5 ft. 7 in.; the ground is a trifle easier, but is still hard, the lode maintains its size, being all the size of the level, and is composed of quartz, with a little killas, about 2 ft. of which is spangled with lead ore, and frequent small vugs containing good specimens of cube galena. The lode is a promising one, with every indication of improving in depth. It is to be regretted that the ground being so hard we cannot explore the lode more expeditiously at the present depth. The 70 west was driven 4 fms. 1 ft. 5 in.; the lode is now 15 in. wide, carrying a branch of blend, with spots of lead ore. The intermediate level, east of footway rise, under the 40, has been further extended 2 fms., and will yield 1 ton of lead ore per fathom. The stope west of this point, now yields about 12 cts. of lead ore per fathom. We have re-set five tribute pitches to ten men and three boys, one at 3d. 10s. per ton, and four at 8d. per ton, of dressed lead ore. On June 13 we sold 20 tons of lead ore, this being three weeks in advance of the usual date of sale. We hope to have 50 tons of blend ready to sample in two or three weeks.

WEST BASSET.—F. Hodge, June 23: Grenville Shaft: The lode in the 165 is

producing some good stones of tin, and is improving as we go west; worth 8d. per fathom. The stope in the bottom of this level is worth 25d. per fathom, and the lode is of a very kindly appearance, and producing small vugs containing good specimens of cube galena. The lode is a promising one, with every indication of improving in depth. It is to be regretted that the ground being so hard we cannot explore the lode more expeditiously at the present depth. The 70 west was driven 4 fms. 1 ft. 5 in.; the lode is now 15 in. wide, carrying a branch of blend, with spots of lead ore. The intermediate level, east of footway rise, under the 40, has been further extended 2 fms., and will yield 1 ton of lead ore per fathom. The stope west of this point, now yields about 12 cts. of lead ore per fathom. We have re-set five tribute pitches to ten men and three boys, one at 3d. 10s. per ton, and four at 8d. per ton, of dressed lead ore. On June 13 we sold 20 tons of lead ore, this being three weeks in advance of the usual date of sale. We hope to have 50 tons of blend ready to sample in two or three weeks.

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FOREIGN MINES.

The following were omitted for want of space last week:

COLOR GOLD.—Dr. Atcherley, the assayer and superintendent of the mines, writes under date May 23: In the cross-cut at No. 2 shaft strings of quartz have been continually met with, all containing gold. The engine is bedded and fixed, ready to work the stamps. Saw-bench fixed in position, and will shortly be at work. The breach in the Gingagoonta tank has been repaired, so that we shall have an ample supply of water. We are all as well as possible in health. As soon as the rains commence I am going to plant gum and casuarina trees.

WYNNAAD PERSEVERANCE ESTATE AND GOLD MINING COMPANY.—Telegram from John Jekin Cooper, M.E., the company's managing engineer on the estate: "Shaft enlarged 8 ft. down, main tunnel commenced. Excavations for Cook's machine completed; Cook's machine arrived complete." It will be remembered that the eastern part of Perseverance Estate is closely contiguous to the Alpha property.

PITANGUI GOLD.—Cable message from the agents of the company in Rio de Janeiro, dated June 8, advise the amount of produce obtained for the month of May as being 1750 oits, of gold. The value of this produce would amount, at \$s. 6d. per oitava, to 743, 15s. sterling.

COLORADO UNITED.—Advices dated 24th May: The silver ore shaft is down 70 ft. below the 11th level, and the 12th levels are about to be started. The 11th drift is connected to Taylor's winze. The No. 2 stope in 10th level is turning out the same as heretofore. The mill has been running steadily.

LAST CHANCE CONSOLIDATED.—June 17: The following telegram from their agent has been received—"We have during last week run 26 ft. in tunnel No. 1, vein matter, with stringer of good ore running through it. We have run 13 ft. in tunnel No. 2, vein matter, mixed with low grade ore."

EBERHARDT.—F. Drake: Progress report for week ending May 21, 1881: West Drift: Run to May 17 474 ft.; run for week ending May 21, 30 ft.; total distance run to May 21, 204 ft.; for month of May, 83 ft. No change. Everything running well as usual.

RICHMOND CONSOLIDATED.—R. Rickard, May 25: I beg to hand to you the report of the different operations for the past week:—The south drift, from Lisette tunnel, has been extended 12 ft.; the ground is somewhat harder, but still very favourable. The 300 north has been advanced 11 ft. in hard limestone. The 400 north, from No. 11 chamber, has been extended 12 ft. without any change. The 600, south from No. 14 chute, has been drifted 8 ft. in the same character of ground. The 600 east, on shale contact, has been extended 22 ft. without any change. The winze sinking below the 700 north cross-cut is now down a total depth of 41 ft.; the bottom is not looking so well as it was, the ore being only a few inches wide. Good progress is being made in the sinking of the main shaft. On Saturday all ore breaking was suspended. The furnaces will close down on Monday next, and no more ore will be broken until the furnaces resume operations, which will be about the beginning of July.

RUBY AND DUNDERBERG.—Report on the mines for the week ended May 22: Dunderberg: The 700 ft. level has been advanced 17 ft. during the week, total 417 ft. from the shaft. The face of this drift is in much softer ground now, and I expect to make better progress until the winze is reached. There is about 80 ft. more to be run to make the connection. The No. 2 winze has been sunk 19 ft. during the week, total 142 ft. below the 600 ft. level. The No. 1 ore body continues 1 to 2 ft. wide, of good quality. The No. 5 ore body at the south winze between the 500 and 600 ft. looks well, and is producing the greater portion of the ore being shipped at present. The 600 has been advanced 11 ft. past the south winze. I expect to cut the No. 5 ore body in this drift shortly, as it is pitchings down in this direction. The No. 8 ore body does not look quite so well, but is still producing some good ore. There is a slight improvement in No. 4; the ore is somewhat larger and in softer ground, which is a favourable indication. The 300 ft. west cross-cut has been advanced 5 ft. during the week; total 522 ft. from the north drift from the old incline. Have shipped 170 tons of ore from Dunderberg this week, and have 46 men and 8 tributaries at work.—Bullwhacker: The ore in rise above the 325 ft. level continues about 3 ft. wide and of good quality. The south-east cross-cut has been advanced 10 ft. during the week and ore encountered 20 ft. beyond the rise. A drift has been run 15 ft. north and 6 ft. south on vein about 4 ft. wide, containing low grade ore and iron, with occasional bunches of several tons good ore. This part of the mine looks very promising at present. Have shipped 14 tons of ore, and have 10 men at work.

—Copy of telegram received from Eureka to-day, June 14: The week's run from the furnaces was \$13,500, from 212 tons of ore, producing 36 tons of bullion. The shipments of the week were 255 tons.

PIERREFITE.—June 11: In No. 3 level we have commenced cross-cutting north to ascertain if any portion of the lode is near the level. In No. 2 level the portion of lode being carried with the end yields 2 tons of lead ore and 4 tons of blonde per fathom. No. 2 stope over No. 1 level yields 7½ tons of lead ore and 1½ ton of blonde per fathom. No. 2 stope below No. 1 level, 3 tons of lead ore and 4 tons of blonde per fathom: 89 tons of ore have been sent down over the cable during the past week, and about the same quantity broken from the stope, &c. We have had very heavy rains during the past week, which has kept nearly all surface operations in abeyance.

CHONTALES.—William White, May 5: Estrella Mine: In my last report it would appear that we should have made greater progress in driving during the past month; but, unfortunately, after a stratum of hard greenstone came in from the north, and the south side being previously hard, the lode became squeezed and unproductive by coming in contact with this hard layer. We had to use dynamite, and have driven 8 yards, but the ground is again getting easier, and the men more accustomed to the work, so that by next month I hope to give a more encouraging report.—Consuelo Mine: Here during the past month we have got through the run in the deep adit (referred to in last report), have cleared and repaired 23 fms., and are now in 44 fms. from the mouth of the level. The ground so far is easy for progress, and backs dry; but there is water in the bottom, which deepens towards the end, so that now we have to carry in the back to fill the bottom above the water. I hope to have this level soon put right, and to report progress by next month in extending into new ground. We have had no quartz from the last month's drivings to supply the stamps, consequently there has been nothing doing in that department, saving the carrying out of all possible repairs for the future. Total costs for April is \$137, in which there is charged for freights from port for timber, and for Messrs. Hatch and Browne's account \$19; but these items will soon be greatly reduced.

POTOSI.—Extract from mine captain's letter, dated May 6: Main Shaft: This is being sunk 4 ft.; the lode is 3 ft. wide, but the quartz obtained therefrom is rather poor—I think the lode will increase again in size as we go a little deeper, a few droppings having made their appearance in the hanging-wall, which is a good indication. The winze west of this shaft, sinking below the bottom of the No. 6 level, is being sunk 6 ft.; the lode is 3 ft. wide, the quartz about the same nature at in the main shaft. The stope west of shaft at the No. 5 level produces a large amount of quartz, but not rich in gold. The lode in this stope is declining in size, but no doubt will improve in value; the lode is 6 ft. wide.—No. 1 Shaft: This shaft is being sunk 6 ft.; the lode is 4 ft. wide, and produces good milling rock—we are preparing to fix a small lift in this shaft, which will be attached to the main engine. The drift driving east of No. 1 shaft at the No. 6 level has been driven 10 ft.; the lode is completely cut out by a cross-head, which has passed from north to south at this level, but we hope to gain the lode again in driving a few feet further. You will see by my former reports that this cross-head or slide has followed us down a little west of the air shaft for some distance, but is now dipping west faster than in the levels above; we have 40 ft. further to drive this drift to communicate with the air shaft—this being done a constant supply of quartz can be got both for the No. 1 and air shafts haulage.—Air Shaft: Little has been done in this shaft since the break down of the vertical engine, on account of not being able to haul away the quartz at this point. We shall push on the drift at the No. 6, in order to make the communication as soon as possible with No. 1 shaft.—Peru: Atwood's shaft is now sunk 60 ft. from surface; the lode in this shaft is 3 ft. wide, and of a very promising character. No doubt but what the company has a splendid property here. Some very fine stones of quartz are being met with in sinking. The shaft east of Atwood's shaft is being sunk 60 ft. from surface; the lode in this shaft is 18 in. wide, and seems to be more settled. A good horse whim or hoisting machine should be fixed to command both shafts. Hoisting with tackle out of such large shafts is a good deal behind the age.

HOOKER HILL GOLD.—Extracts of letters from resident and mining engineer; letter dated May 25, received June 7.—Engine: The engine foundation was completed on Monday, and the mechanics are now busy laying the plate-bed down. The engine will have a remarkable well-built foundation. Masons are now walling up for boiler foundation. The ore bins are going up rapidly; most likely the main framework will be got through before the end of this week. Nearly all the machinery has been carried out except the stone-breaker, and that will be taken in hand next week. It is a very heavy casting, more so than any we make in England, and will test our light bridges on the road severely.—Mine: Both drifts in Gallimore continue to be driven in the same quality of ore without any apparent change in the nature of the stone. I have decided as soon as the repairing is completed in Provost, which will take until the end of the week, to continue it, and reach thereby the zone below Bröil's old workings; this will be a matter of 20 to 30 feet. Yesterday we broke into the hard quartzite dyke in Bröil's open-east drift; this is the first point we have ascertained. Now Gallimore and Provost stand 50 feet further back, or more, and how far its thickness is beyond these pits we shall only find out by exploring, but should the dyke not extend beyond these points its breadth would, I believe, be considerable, and if we can satisfy the directors that the entire mass, or a fair portion of it, is auriferous to the degree required for successful manipulation; and, so far, we have every reason to be satisfied—then we may rest perfectly satisfied with what the future will bring us. Breaking into this dyke I had the pestle and mortar going all day, and if I cannot repeat the quality as rich, I can honestly say it pans fair, and will make good stamp work; but it is too early to speak of the quality. In another place I am opening up a ledge at surface that pans remarkably well. All this goes to accumulate good stamping ore. We have many such places where ledges crop up to surface containing good ore. Our great point is, however, to run through the entire mass, with the tunnel at a reasonable depth from surface:—Surface: I let a contract to some local dam builders to build our dam, finding their lumber for grounds, sills, ties, and floodgate, in all complete for the sum of \$700. I have had the contract open for some time back; could not get men to take it at my figure (\$600), and, not to delay the work longer, gave them their price. The Uwharrie river runs low at present, and these men, to take advantage, are hard at it with 40 to 50 men, and that in early sunrise to late at night, with this force, a fortnight longer will see it finished; this week will complete the water courses. The tramroad is being brought down with the balance of surface men. In all, I can report with pleasure that everything is progressing very satisfactorily. I shall have my portable assay furnace up this week, when I will set about assaying the mineral from all quarters on the

letter dated June 1, received June 14: I have been assaying in the last two days ore broken from the present workings and from surface in many places. The lowest assay was \$18 per ton from surface ore, up to \$155 taken from the present end in Gallimore; it will, indeed, be an extraordinary thing if we obtain good results in panning and assaying and not in the mill; but I feel satisfied that we shall have good results.—Mill: We continue to make fair progress. The engine foundation has taken longer than I expected, but the work is very solid—a solid cement body. We have come to that stage where a week's work gives little show. The entire height of the ore bins and stone-breaker floor will be completed this week. The boiler foundation is being built.—Mine: The rock continues hard in the tunnel. Now that the board has given permission to put in boring-machine I shall lose no time in getting it ordered and brought to the mine. The quartzite dyke intersected at Bröil's open-east at starting, but now under cover, is changing into more white quartz, and pans fair. About 20 ft.

ahead we shall strike that portion of the dyke which holds on so well in Gallimore and Provost. Gallimore drifts, both ways, continue to turn out the same mass of ore as reported from time to time in the past. Contractors have many hands working on the dams on Uwharrie river, and if no rain comes for the next week or ten days it will be completed. The tramway is progressing well. I have received tram rails, so that the road can be completed at once.

CANADIAN COPPER.—Francis Bennetts, June 3: At Bolton Mine and the Acton Mine there is no change of importance since my last report.—St. Francis Mine: The men have struck a cavity (vug) in the winze sinking in the bottom of the adit, east of main shaft, but have not ascertained its dimensions nor size or quality of the ores surrounding it. Cavities are one of the characteristics of this vein, and the richest and largest deposits of ores have been found in their vicinity.—Hartford Mine: There is a good vein of 6 ft. wide in the 85, east of No. 7 shaft. The 40 and the 50, east of No. 7 shaft, also show a good vein of ore of from 3 to 5 ft. wide. And in a rise above the back of the 10, at No. 7 shaft, there is a vein of good ore of from 5 to 6 ft. wide. At No. 1 shaft the whim is completed, and I trust to commence hauling out the water in a few days, as there is comparatively little water to haul out before we can break ore. I expect to have some of these ores in the present month's returns.

FLAVILLA.—R. Gundry, May 25: Since my letter to you of the 9th inst, we have drifted about 13 ft., and taken out about ½ a ton of ore in the Brook's drift. During some portion of that distance the ore body has been very small, but it looks a little better now. In No. 1 rise we have drifted about 10 ft. without any favourable change. We are assorting and mixing the ore preparatory to sacking and shipping it. I think we have from 15 to 18 tons of ore, which ought to be worth at least \$60 per ton.

CAPE COPPER.—Capts. Henwood and Lanksbury, April 30: OOKIEP: The 92 fm. cross-cut south-east of No. 35 winze is now worth 4 tons of copper ore per fathom. The ground in the 92, north-east of No. 36 winze, has since our last report produced some stones of copper ore, and the present forebreast still looks very kindly. The stopes at this depth continues to maintain its value of 9 tons of copper ore per fathom. No. 41 winze sinking below the 80 has declined a little in value; present bottom worth 3 tons of copper ore per fathom. The ground in the 80, south-east of new shaft, is looking more promising, and at present produces a little copper ore, but not sufficient to value. The 80, east of No. 26 winze, is still unproductive; the ground is composed principally of quartz. The 68, south-east of No. 31 winze, yields about 1 ton of copper ore per fathom. The 58, north-west of No. 40 winze, is worth 4 tons of copper ore per fathom. The 58, east of No. 40 winze, has not undergone any change to notice; the ground is spotted with copper ore, but not in paying quantities. The stopes throughout the mine are looking well.

SPECTAKEL.—Capts. Henwood and Lanksbury, April 30: The sinking of the incline below the 64 proceeds satisfactorily; the ground still shows spots of copper ore. The winze sinking below the 64 has not met with anything of value since the last report. The ground in the intermediate level in the bottom of the shaft has not undergone any change to notice; the ground is spotted with copper ore, but not sufficient to value. The stopes, one in the 64, and one in the bottom of the 58, continue to yield about 3½ tons of copper ore per fathom.

TRIAL MINES.—Capts. Henwood and Lanksbury, April 30: The ground in the 12, east of Trial shaft, is still hard and sparvy for driving.—Springbokfontein:

The shaft has now obtained a depth sufficient for a 25, and we shall start to drive as soon as skip-road has been fixed. Near the bottom of shaft a patch of decomposed schist was met with, containing some very rich stones of purple copper ore.—Trial east of Springbok: The costeaning pit is being carried on, but nothing of value has yet been seen.

RETURNS.—For April, Ookiep, 1200 tons of 29 per cent.; Spectakel, 144 tons of 35 per cent.; Nababeen, 23 tons of 21 per cent.—Bills of lading received: 590 tons of ore per Tacna, and 430 tons per L'Esperance.—Arrival at Port Nolloth: The Glanrafon.—Sales of ore: 700 tons at 11s. 7½ d. per unit, 800 tons at 11s. 9d. per unit, and 100 tons at 12s. 6d. per unit.

EFUENTA.—May 11: The manager writes—"Stamps: I am stopping all outside work, getting the timbers, which have been cut out on different parts of the property, carried down to where the stamper is to be erected, and hope soon to be able to report having commenced the actual erection of the stamps. I will hurry the work on.—Drifts and Shafts: Our No. 1 drift is now 15 ft. 6 in. 2 ft. 15 ft. 7 in.; No. 3, 6 ft. Incline in shaft, 10 ft. 6 in.; Quartz Creek driven on lode 11 ft. 3 in.; Gallery in No. 2 drift, 4 ft. 9 in., and another gallery commenced on the lode. When I have driven a little further in No. 1 drift I shall commence galleries on each side of the lode there. The samples of No. 1 drift, which I have washed during the past week, have shown 37. 5s., 6s., 10s., 6s., and 5d. 11s. 6d. of gold per ton of ore. Samples in No. 2, respectively 37. 5s., 4d. and 7d. A sample from lode in Quartz Creek showed 27. 5s. of gold per ton.—Rich New Bed: I have now the pleasure to report having struck in the shaft the top of a very auriferous lode, the first sample of which showed 47. 10s. of gold per ton. It is not the same class of ore we have in the drifts; it is more a red sandstone, with a quantity of boulders in it. I fully believe from this that we shall strike another lode in the drifts. By next week we shall have sunk several feet into this bed.—Ore extracted: I am now extracting from 1 and 2 drifts 15 tons of actual ore per day. As soon as we are able to open on the beds in Nos. 1 and 3 we shall get 50 tons daily. We shall have above 2000 tons ready for stamping when the stamper is ready, which will, I believe, be early in August next."

SENTEIN.—Returns for month of May: Crude ore raised from the mine, 1225 tons of 1000 kilos.; crude ore sent from the mine to the dressing-floors, 1227 tons of 1000 kilos. Crude ore dressed, 1042 tons; ragging dressed, 70 tons; tallings dressed, 100 tons; equal to 1212 tons of 1000 kilos. Market lead ore produced—86 tons first class, and 20 tons second class. Blonde ore produced—450 tons first class, and 80 tons second class.

ALAMILLOS.—June 5: In the 30, driving east of Taylor's engine-shaft, there is a large, strong, and very promising lode, producing 2 tons of ore per fathom. The 130, driving west of Taylor's engine-shaft, is not so productive as it was a short time since. There is no improvement in the 85, driving west of San Adriano shaft. In the 70, driving east of San Victor shaft, a good length of valuable lode has been laid open, but the end is poor at present. In the 70, driving west of San Victor shaft, there is a compact, regular, and productive lode, worth 1½ ton per fathom. The lode in the 50, driving west of Judd's cross-head, is small, opening up profitable ground at 1 ton per fathom. With the sinking of San Victor's engine-shaft below the 70 the men have got on remarkably well; in fact, it is already deep enough for a new level, but will be put down a little further for a fork. In Gomes winze, sinking below the 70, the lode (valued at 1 ton per fathom) is changeable, and not turning out so well as it did. The lode in Emilio's winze, sinking below the 60, has also fallen off somewhat lately, its value being 1 ton per fathom. The usual weekly weighings of ore were maintained during the past month, and the stopes are producing fairly well at present. The surface work is kept on with perfect regularity, and the machinery is in very good condition. We estimate the raisings for June at 200 tons.

FORTUNA.—June 3: Canada Incoisa: In the 120, driving west of O'Shea's engine-shaft, the lode being divided into small branches is worth about ½ ton per fathom. In the 75, driving west of San Pedro's shaft, there is a strong and well-defined lode, producing ½ ton per fathom. In the 80, driving in the same direction, a good length of paying lode was opened up in the past month, valued at ¼ ton per fathom. The 90, driving west of San Pedro's shaft, is laying open profitable ground at 1 ton per fathom. With the sinking of San Pedro's shaft the lode is very regular, but not of any value at present. There is no improvement in the 80, driving east of San Pedro's shaft. The 120, driving east of O'Shea's engine-shaft, and producing ¼ ton per fathom, has changed unfavourably during the past few days. The 100, driving east of Lownde's shaft, has also fallen off very much in the past fortnight. In the 90, driving east of Santo Tomás's shaft, a promising and productive lode worth 1 ton per fathom has been laid open at a very cheap rate. The lode in Navarro's winze sinking below the 110 has somewhat improved in the past few days, and now produces ½ ton per fathom.—Los Salidos: In the 175, driving west of Taylor's engine-shaft, the lode is a little more open than it was. There is no improvement in the 160 driving in the same direction. In the 175, driving east of Taylor's engine-shaft, a good length of profitable ore ground is laid open, worth 1½ ton per fathom. The 180, driving east of Taylor's engine-shaft, consists of a strong, regular, and well-defined lode, producing 1½ ton per fathom. The driving of the 145, east of Taylor's engine-shaft, has been resumed; lode disarranged and unproductive. In the 130, driving east of Taylor's engine-shaft, the lode (worth 2½ tons per fathom) has fallen off a little in value in the past fortnight. The lode in the 120, driving east of San Pablo's shaft, is small, producing 1 ton of ore per fathom. Granite close and hard. In the 80, driving west of Palgrave's shaft, the lode is split into branches, and of no value. Arrogo's winze sinking below the 110 is going down in a strong and productive lode worth 2 tons per fathom. In Pepe's winze sinking below the 65 the lode has declined both in size and value. The usual returns of ore were kept up very regularly during the past month, and the stopes in that time have not undergone any change of importance. The ordinary surface works are going on with perfect regularity, and the machinery throughout the mine is in good condition. We estimate the raising for June at 300 tons.—San Anton: The 45, driving east of Henry's engine-shaft, has again improved to 2 tons per fathom, and is being

opened up at a cheap rate. In the 55, driving in the same direction, good ore ground is being driven through, worth 1 ton per fathom. The 55, driving west of Henry's engine-shaft, has improved in the past few days, being now valued at 1 ton per fathom. The 45, driving west of Henry's engine-shaft, is still in contact with the same cross-course and elvan met with in the 30. In the 30, driving west of Henry's engine-shaft, the lode (worth ½ ton per fathom) is large, open, and inexpensively wrought. Plata's winze sinking below the 30 is going down in a very fine shoot of ore valued at 3 tons per fathom.—San Francisco: In the 25, driving east of San Francisco engine-shaft, the lode is very open, and yields occasional stones of ore. The lode in the same level driving west of San Francisco engine-shaft

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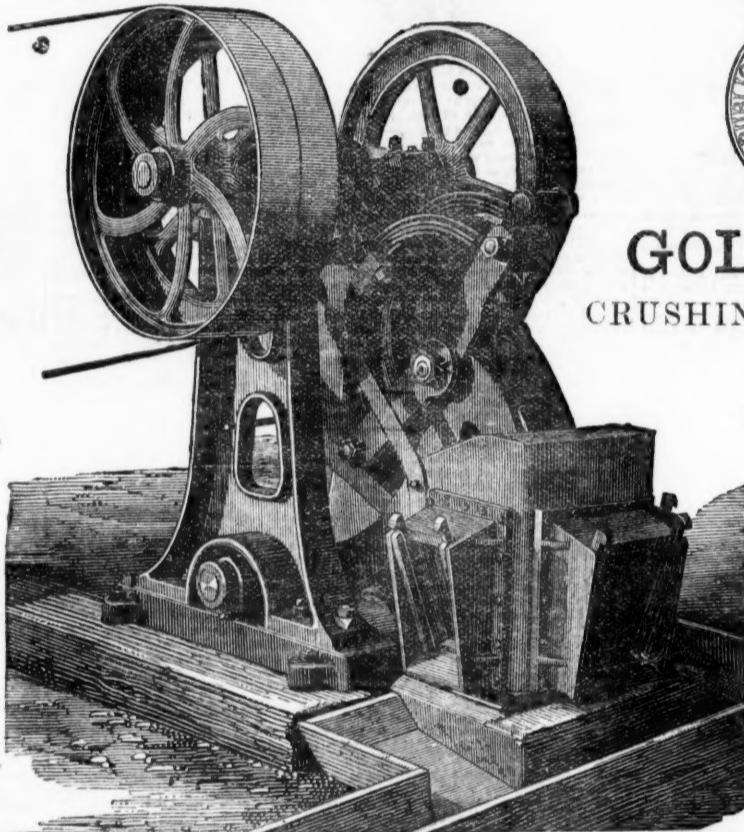
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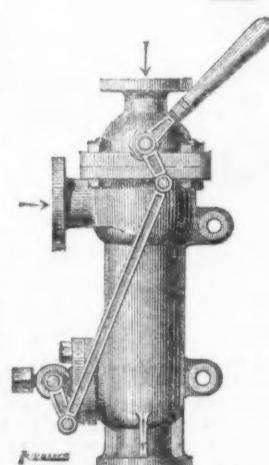
This Turbine is applicable to all heights of fall. It works immersed in the tail-water, so that no part of the fall is lost, and the motion of the Wheel is not affected by floods or back-water.

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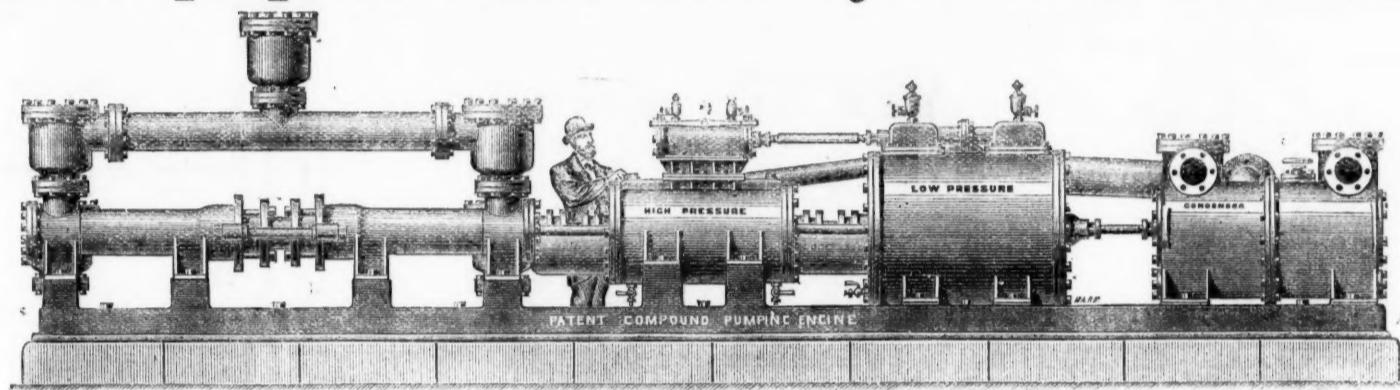
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Yours truly,

(Signed)

M. STRAW, Manager.

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Diameter of High-pressure Cylinder.....	In. 8		8	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder.....	In. 14		14	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder.....	In. 4		6	5	6	7	8	6	7	8	10	7	8	10
Length of stroke.....	In. 24		24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate.....	3900		6100	8800	6100	8800	12,000	15,650	8,800	12,000	15,650	24,450	12,000	15,650
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder.....	360		330	160	360	250	184	140	360	264	202	130	360	275
Ditto ditto ditto—with Holman's Condenser...	480		307	213	480	333	245	187	480	352	269	173	480	367
Ditto ditto ditto—with Air-pump Condenser...	600		384	267	600	417	306	335	600	440	337	216	600	459

CONTINUED.

Diameter of High-pressure Cylinder.....	In. 16	16	16	16	18	18	18	21	21	21	24	24	24	30
Ditto of Low-pressure Cylinder.....	In. 28	28	28	28	32	32	32	36	36	36	42	42	42	52
Ditto of Water Cylinder.....	In. 8	10	12	14	8	10	12	14	10	12	14	10	12	14
Length of stroke.....	In. 36	36	36	36	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate.....	15,650	24,450	35,225	47,950	13,650	24,450	35,225	47,950	24,450	35,225	47,950	24,450	35,225	47,950
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder.....	360	230	160	118	456	292	202	149	397	276	202	518	360	264
Ditto ditto ditto—with Holman's Condenser...	480	307	213	154	603	389	269	198	528	363	269	691	480	352
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	191	750	486	337	248	600	450	337	864	600	440

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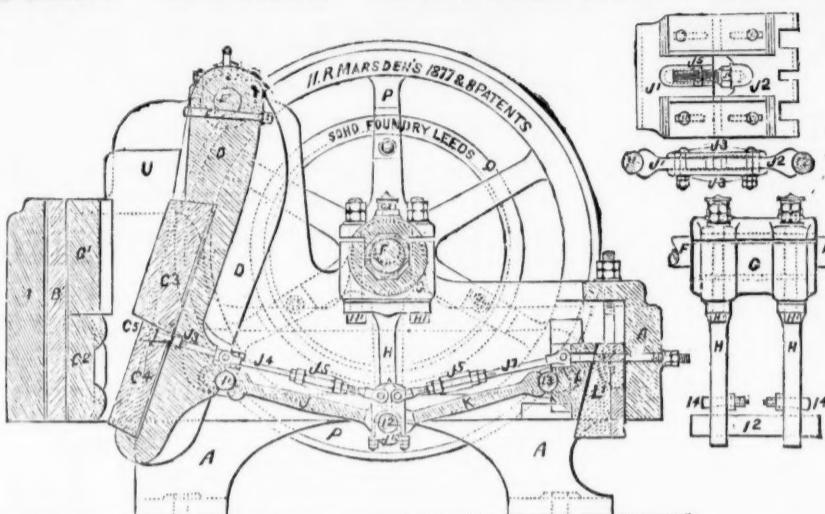
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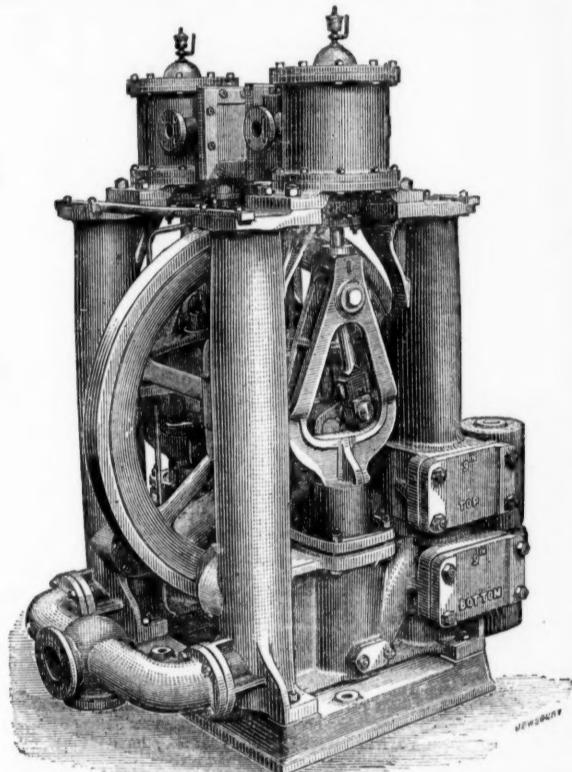
Of which he has made over 8000.

ALSO, HIS

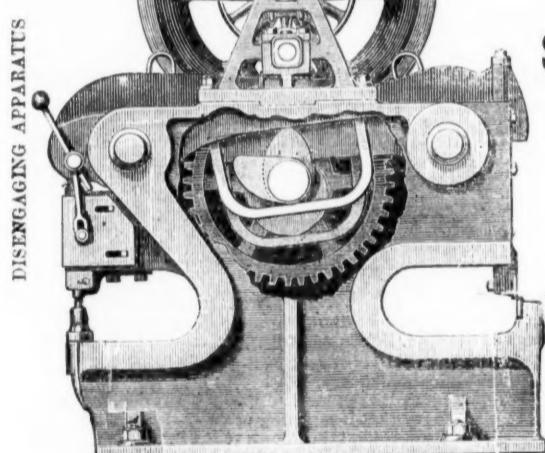
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